

BEKAL EXCAVATION

(1997-2001)



M. NAMBIRAJAN

MEMOIRS OF THE
ARCHAEOLOGICAL SURVEY OF INDIA
NO. 101

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(1997-2001)

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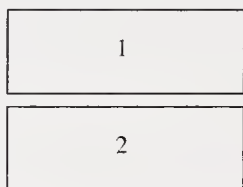


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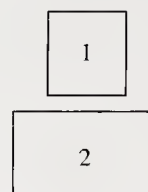
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2009

Front Cover Photo



1. Bekal Fort - front view
2. Mint House - view from east

Back Cover Photo



1. Bronze image
2. Gold objects

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FOREWORD

Bekal Fort in Village Pallikkare, District Kasargod, built by Ikkeri Nayakas was under the occupation of Haider Ali, Tippu Sultan and British since the medieval times. Here the excavations were carried out for four seasons (1997-98 to 2000-01) under the direction of T. Satyamurti (the then Superintending Archaeologist, Thrissur Circle) to ascertain the cultural sequence, extent of occupation and the details of structural remains. Residential and palace complex, mint, Durbar Hall and complex are some of the important buildings. Among the antiquities, mention may be made of coins, metal objects including gold and terracotta seals. But the most noteworthy find of metal objects belong to the period of Tippu Sultan.

I would like to record my appreciation for preparing and printing of this report and also thank all those who are associated with its production. I hope, this excavation report will definitely be of great value for further work on this subject.

New Delhi
06.03.09



(K.N. Shrivastava)
Director General

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I will be failing in my duty, if I do not mention the sincere efforts put in by Ajeesh Krishnan and Rani Mole S.J, Research Scholars in completing this report.

I am also thankful to Shri Chandra Pandian, Deputy Superintending Archaeological Chemist, Dr. Venugopala Reddy, Assistant Superintending Archaeological chemist, Archaeological Survey of India, Chennai for giving chemical treatment to the coins.

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I am also I record my heartiest thanks to the authorities in the Archaeological Survey of India who have rendered valuable support to the excavation work. I also thank Dr. R.S. Fonia (Dir.) and **Dr. Arundhati Banerji** (SA). Shri Hoshier Singh (PO) besides (Miss) Tajinder Kaur (Assistant Archaeologist) of Publication Section for seeing through the press. highly grateful to Smt. Kala Nambirajan, my wife and my children masters Karthik, Akshath and Ankith for all their co-operation.

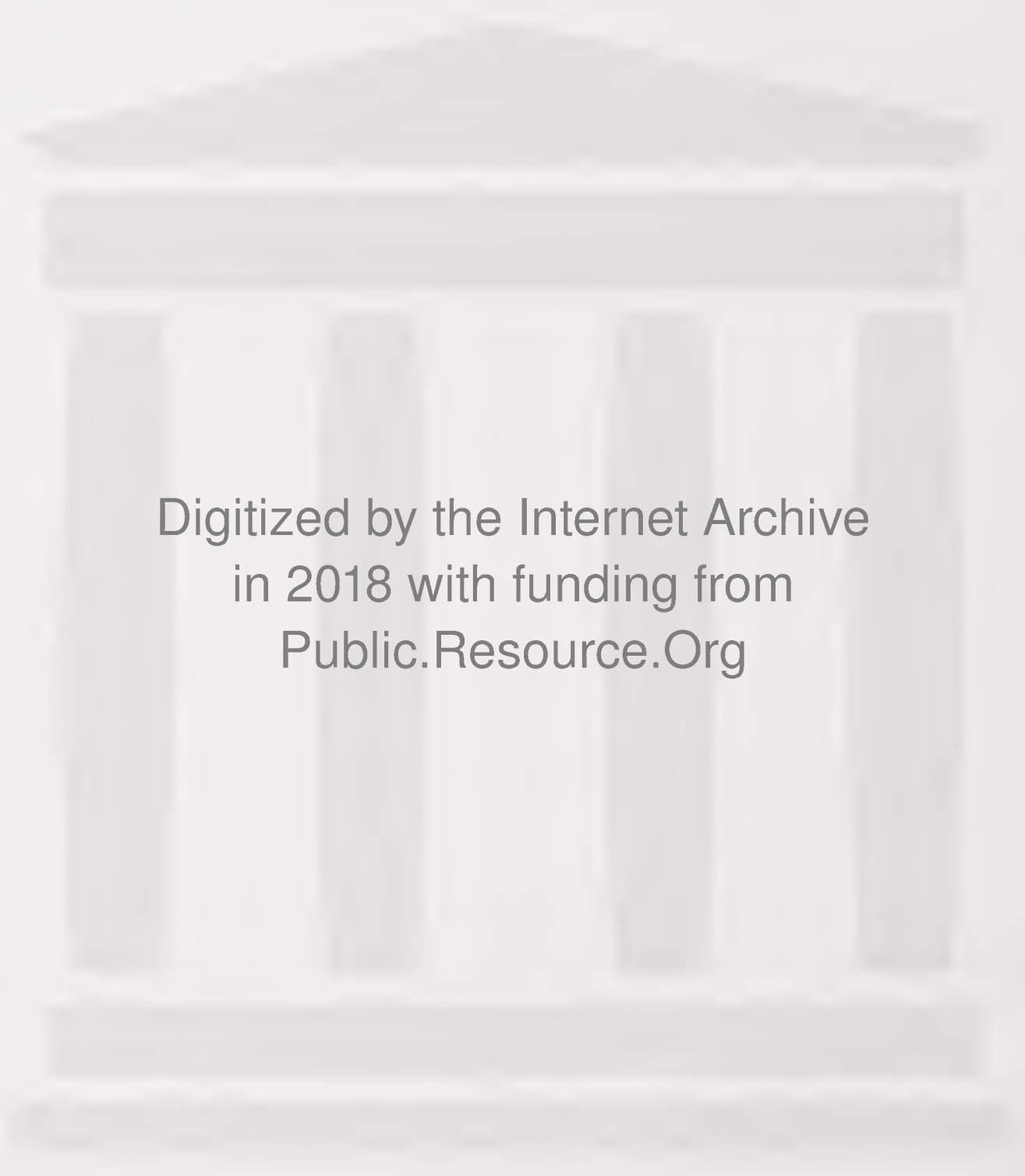
In spite of my sincere efforts some mistakes might have crept in for which I crave my Indulgence of the readers.

M. Nambirajan

Superintending Archaeologist

30-06-2007

Thrissur



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INTRODUCTION

Bekal fort, one of the earliest and largest forts in Kerala, is situated in Pallikkare Village, Hosdurg Taluk, District Kasargod (pl.IA, fig.1). During the medieval period, it played an important role in the political scenario of Northern Kerala. Originally, the fort was constructed by Ikkeri Nayakas and later was occupied by Haider Ali, Tippu Sultan and still later by the British.

The fort consists of several structural remains of historical importance. To know the cultural sequence, extent of occupation and the archaeological importance of the structural remains, an excavation was conducted in four

seasons from 1997-98 to 2000-01, under the direction of T. Satyamurti, Superintending Archaeologist, Thrissur Circle assisted by M. Krishna, T. Samuel Joshuva, S. Ravichandran, M. Nagendraswamy, K. Somanna and T. Palanivel. The excavation unearthed several structural remains including residential and palace complexes, a Mint, Durbar Hall and a temple complex. More than 2000 antiquities have been recovered through this excavation. It includes the coins of Nayakas and Tippu Sultan, metal objects in gold, silver, lead and copper, terracotta seals of Vijayanagar period etc. most of the metal objects belong to Tippu Sultan period.



Pl. IA : Front view of Bekal Fort. See p. 1



Fig. 1: See p. 1

BEKAL : 1997-2001
 DISTRICT: KASARGOD, KERALA
 BEKAL AND ITS ENVIRONS



Fig. 2: See p.7

HISTORICAL BACKGROUND

During the Sangam, period Kasargod district formed part of Ezhimale kingdom with its capitals at Ezhimale and later at Pazhi. Sangam literatures like Agananuru, Purananuru, and Nattinai mention about Ezhimale kingdom (Menon; 1972).

An inscription found in the Vishnu temple at Pullur-Kodavalam mentions about a gift of gold by Bhaskara Ravivarman II in the year 1021 AD (ARIE; 1963-64). This record shows that the II Chera dynasty had a political sway over this region. Mooshikavamsa, a historical poem compiled in twelfth century AD mentions that part of Kasargod and Kannur was ruled by the Mushika kingdom. During the thirteen century, political situation in Kerala underwent many changes. In northern Kerala, a new line of rulers known as Kolathiries came to power. Under the reign of Kolathunadu rulers Bekal become one of the important port towns in Kerala. At around the same time, maritime trade with Portuguese and other European countries attained its prolific stage. Because of its proximity to Karnataka and due to the strategic location, Bekal attained importance from the days of Vijayanagara rulers. The development of maritime trade between western India and Portuguese is another major cause.

The battle of Talikota in 1565 AD led to the fall of Vijayanagara Empire and emergence of many petty chieftains in Karnataka. One of them was the Ikkeri Nayakas. They were also known as Bednore Nayakas or Keladi Nayakas, after their capitals at Bednore and Keladi respectively.

During the sixteen century AD, they had control over a large part of Kasargod area. One of the important rulers of Ikkeri Nayakas was Venkadappa Nayaka (1582 AD-1629AD). He realized the strategic importance of Bekal and initiated the construction of a fort at Bekal. However, some scholars such as Buchanan opine that, Sadasiva Nayaka (1513 AD-1560AD) started the construction of the fort at Bekal (Kamath, Sundara, U; 1981). After Venkadappa Nayaka, Ikkeri family shifted their capital from Ikkeri to Bednore. Sivappa Nayaka, who ruled between 1645 and 1660 AD, completed the fort. Ikkeri Nayakas were also responsible for construction of a few more forts in Hosdurg Taluk in Kasargod district.

The other version is that the Kolathiri Rajas built the fort. After the decline of Kolathiris and the Vijayanagar Empire, this area came under the control of the Ikkeri Nayakas, who rebuilt the fort. Due to its strategic location, Bekal fort witnessed many a battles. The important among them were the Carnatic wars between British and Haider Ali. He captured Bekal fort in 1763 AD. During Tippu Sultan's time, it became a centre of administration of Tulunadu. After the Sreerangam treaty (1792 AD), Bekal was incorporated in to the dominion of the British.

Bekal fort, roughly polygonal in shape, is the biggest and one of the well-preserved forts in Kerala, spreading over forty acres (fig.3). It has massive walls of about twelve meters in height, built of locally and available laterite stones. The headland on which it is situated runs in to the

Arabian Sea, with a circular bay jutting out in to the sea on the west. The site was so well selected that one gets a complete view of the entire area. It is a large fort with a strong wall and massive ramparts. It has two lines of fortification wall, inner and outer. The fortification is interspersed with machicolations. The fortification walls are impregnate with fifteen bastions of semi circular, octagonal, oval, square and rectangular shape with an entrance on the north side. The bastions at Bekal fort are crowned by merlons with large number of peepholes and crenulations. The

bastions have been built with huge and well-dressed laterite stones. The size of the cut stone decreases as the height of the masonry wall of the bastions increases. There is a ditch on the fort on the northern side.

The important structures inside the fort are the tank with its flight of steps, the tunnels with opening towards the south, the magazine for keeping ammunition, an observation tower with a ramp. This tower is of strategic importance giving fascinating view of the surrounding area.

SITE AND ITS ENVIRONS

Location of the Site

Bekal fort, (12°32'N Lat; 75°2'E Long) Pallikare village, Hosdurg Taluk, District Kasargod, Kerala lays 17 km southeast of Kasargod town. The nearest airport is Mangalore and the nearest railway station is Kanhangad on the Thiruvananthapuram-Mangalore line.

Geographically, Kasargod region has three divisions, (a) Costal region or lowland area, (b) elevated plateau or midland area, and (c) undulated upland or Highland area. Bekal, situated on the sea shore of Pallikare village, is a semi hilly area. The region, comprising of a narrow strip of land, is surrounded by the Western Ghats and the Lekshadweep Island on the west.

Geological formation

In this area, two types of Geological formations are seen: Archaean and Recent age (Menon; 1972). Highland area of Kasargod district is composed of Genesis and charnokite. This can be grouped in the Archaean formation. However, in the costal area the Achaean formation is covered by laterite and alluvium of recent age. Major rock types found in this area are grey or greyish gneiss, Quarts, Microcline biotitic, Magnetite and occasional Zircon (ibid; pp-15). Costal area and midland area are covered by thick deposit of Ferruginous laterite. The costal sands and alluvium are rich in heavy minerals (Soman,K; 2002). Sands and Alluvium deposit contains minerals like limonite, monazite, zircon,

thorianite and gold (op, cit.p-16). China clay is still mined in Kanhangad area in a large quantity.

Ecology

Bekal fort is bounded by Western Ghats on the eastern side and the Arabian Sea on the western side. The area has many backwaters, lakes and rivers (fig.2). Twelve rivers drain the area. The major rivers are, Majeswaram, Shiriya, Uppala, Mograal, Chandragiri (Payaswini), Kalant, Neeleswaram and Karingote.

Flora and Fauna

Flora

Paddy and coconut trees grow abundantly in the Lowland area and dominate the landscape. Mangroves are found in the estuaries of rivers and backwaters. Midland area is composed of lateritic outcrop. Typical flora of this area is moist deciduous forest consisting of a mixture of evergreen and deciduous trees, shrubs, climbers, grass etc.

Fauna

The primates among the mammals include the well-known Nilgiri Languor and the Lion tailed monkey are confined to the forest area. The Deer, wild Goat, wild dog, herds of elephants, Jackals are also found here.

Climate and rainfall

Like other districts of Kerala, Kasargod is also a monsoon tropical region and the climate of the area influenced the architecture. Normally

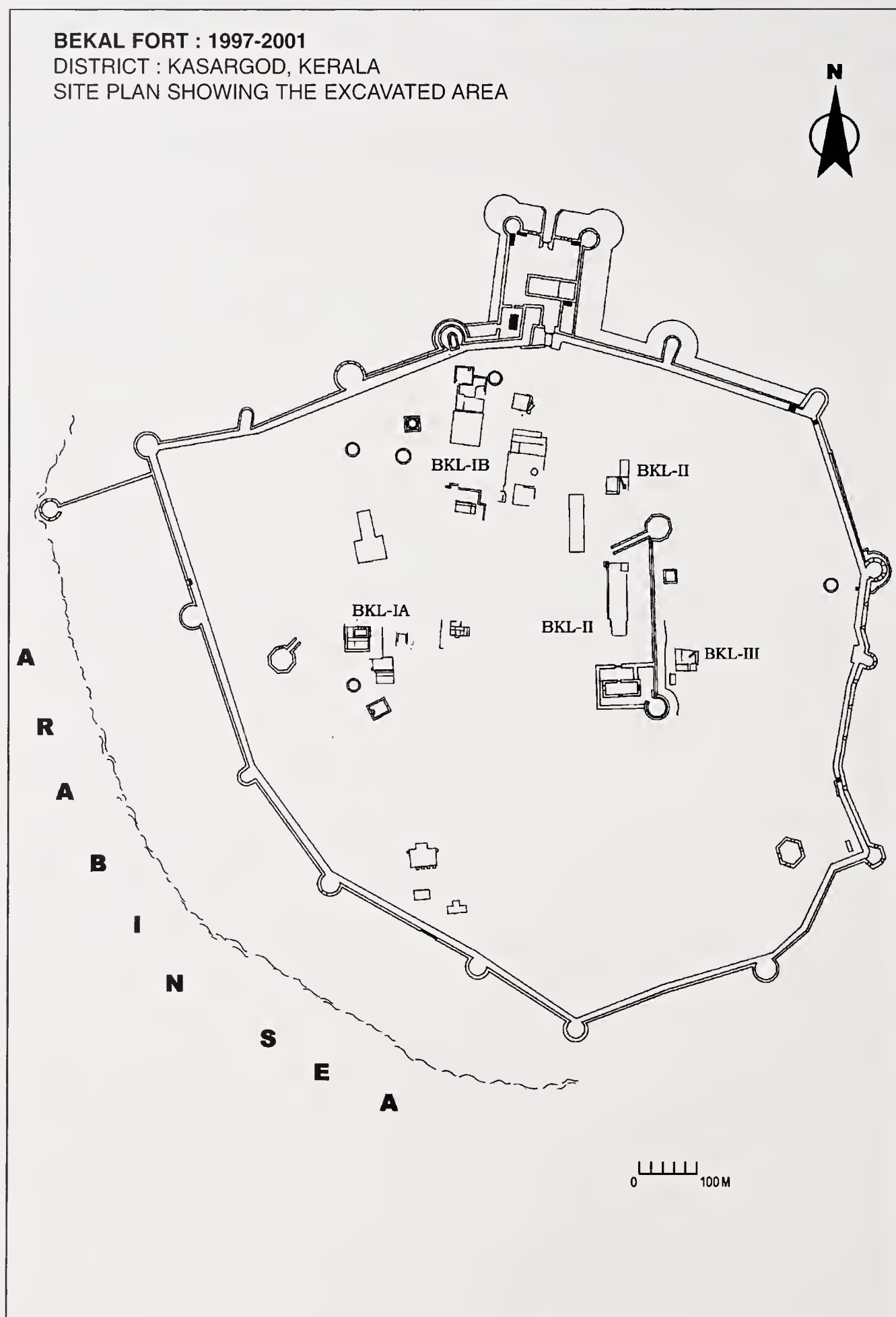


Fig. 3 : See pp.5 and 11

Site and its Environs

this region has a humid climate. The region experiences pre-monsoon or hot season (March-May), south-west monsoon (June-September), north-east monsoon (October-November) and winter (December-February). The south-west monsoon constitutes the principal and primary

rainy season and the rainfall during June and July together constitutes about 68% of the annual rainfall of the district. March and April are the warmest months of the year with a mean daily maximum temperature of 33°C and mean daily minimum temperature of 25°C.



Pl. IB : BKL—IA Str-1, View from east. See p. 15

CUTTINGS

Excavation of Bekal fort was done in horizontal style. Structural remains of ancient settlement in the fort are located in different areas. All these structures were in partially exposed condition. With a view to ascertain the extent of occupation and nature of settlement, the site was divided into three sectors viz. BKL-I, BKL-II and BKL-III (fig.3). The entire of the occupational deposit, represented by lateritic gravel along with surface humus is about 1m. Below this is the laterite bedrock.

BKL-I

BKL-I is located on the western side of the inner fortification. For the convenience of the excavation, BKL-I is again divided into two, BKL-IA and BKL-IB.

BKL-IA is located on the southwest portion of the inner fortification. The cutting is oriented east- west direction. Among the excavated structures, one is a residential complex. All the houses were planned in grid pattern and street running in north- south and east-west direction. Another significant find from this sector is the Mint house or Huzur of Tipu Sultan. Numerous ovens were also discovered from the south-east corner of this structure.

BKL-IB is located on the north-west of inner fortification and oriented in north-south direction. From BKL-IB unearthed a massive structure identified as the palace complex. It is a three tiered rectangular structure constructed with laterite blocks. Thirteen courses of laterite block were exposed on the western side of this

massive structure. A series of house complex have been unearthed on the west of palace complex. These houses are in *chatur sala* or *nalukettu* pattern with stone paved floors and interconnected drains.

BKL-II

This sector oriented to north-south and located on the Northern side of the inner fortification. A watchtower on the north-east part of the fort cut the sector II in to two halves. The cutting on the north of watchtower exposed the remains of an imposing Royal hall facing south, with a raised platform. This structure measuring 5.1x4.7m, identified as the Durbar hall of the Ikkeri Nayakas. Excavation on the north-west of watchtower brought to light a temple complex.

BKL-III

This is located outside the inner fortification. The excavation in this sector has yielded the remains of a residential complex. It is built on laterite bedrock. On plan and execution, this structure closely resembles a *nalukettu*, a traditional house pattern of Kerala.

Chronology

Stratigraphically it was a single cultural site belonging to medieval period (seventeen—nineteen century AD). At Bekal fort Coins are the main sources for assigning the chronology of the occupation inside the site.

The occupation of the fort was started at the time of Ikkeri Nayakas, after its

construction. Structure — 1 and 2 of the sector-II belongs to this period. The copper cash coins of Nayakas and terracotta seals of Vijayanagara period were unearthed from this sector. However, the coins and antiquities found from sector-I and III belongs to Haider Ali, Tippu Sultan and British East India Company. The structural remains from this area include a palace

complex and residential blocks. A large number of copper coins were found from this area. They consist of copper *Paise*, and the *cash*. The *Paise* issued by Tippu Sultan were minted from Feruk, in Kozhikode district, while the cash coins were minted at Bekal.

The *Paise* issued by British East India Company also found from all sectors as surface collections.

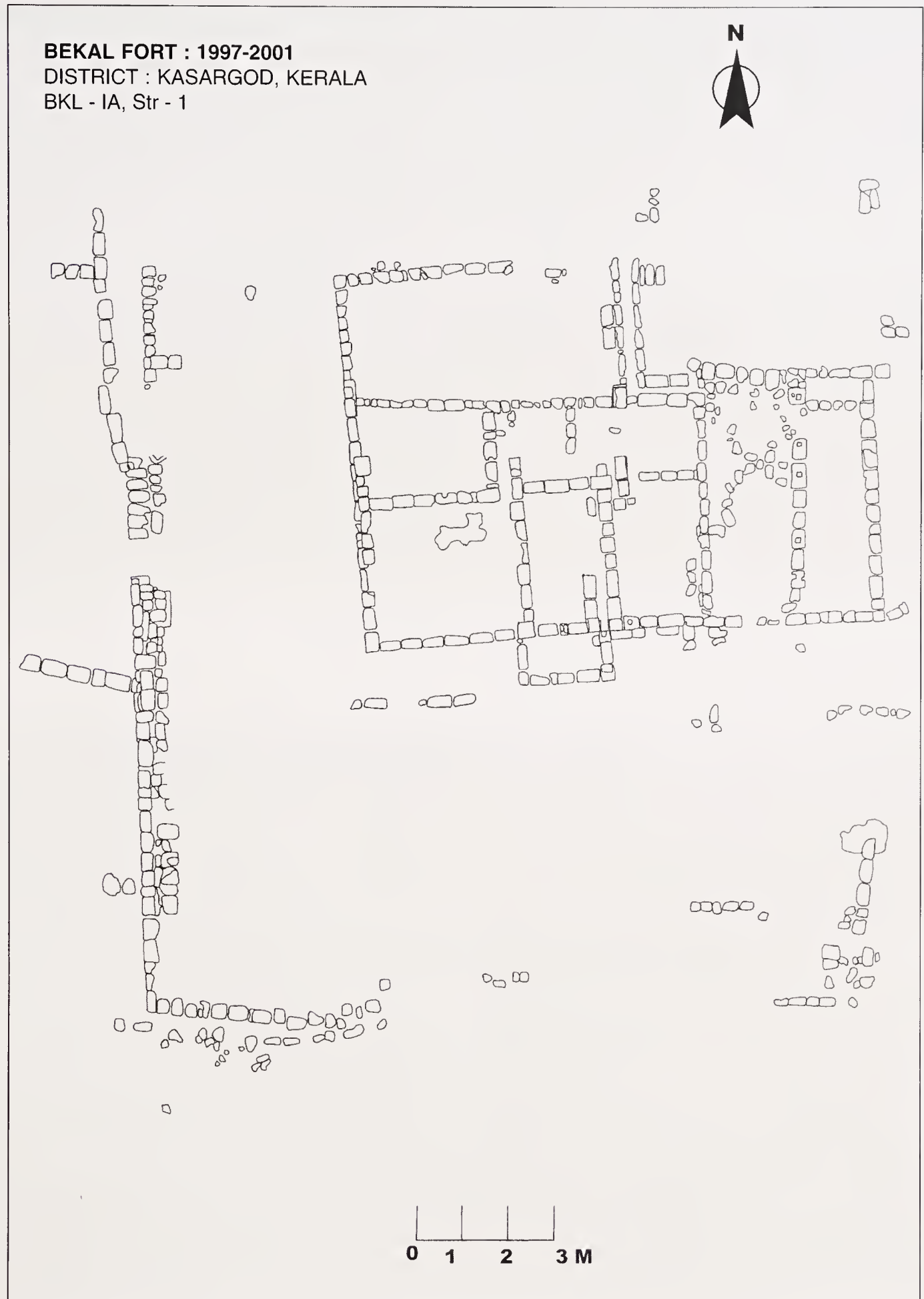


Fig. 4 : See p.15



Pl. IIA : BKL- IA, Mint House (Str- 2), view from east. See p. 15



Pl. IIB : BKL- IA, Mint House (Str- 2), view from north. See p. 15

STRUCTURES

BKL-IA is located on the southwestern corner of the inner fortification. Five structural remains were unearthed from this sector. All the structures in this sector are facing north. The residential buildings are planned in grid pattern and running streets oriented north-south and east-west directions. The houses exposed have a central courtyard with side aisles and inner verandas forming inner living rooms. The houses are approached from a flight of steps made of laterite stone from street level. The general patterns of the houses are reminiscent of the typical *nalukettu* houses of Kerala.

Str-1

This structure is a residential complex having interconnected rooms (pl.IB, fig.4). Entrance is from northern side as indicated by flight of steps. The northeastern corner of this structure is in partly damaged condition. The whole structure measures 11.50x9.20m. The long hall on the northern side measures 5.60x2.75m. Square and circular shaped postholes are visible on the south-eastern corner of the stone alignment. Two square cells of 1m long with a floor made out of mud on north-east and south of the structure might have been used as bathrooms. A boundary wall 17.25 m in length running in north-south direction with a gateway in the centre has been unearthed to the west of Structure-1.

Str-2

Structure-2 is located in the northwestern corner of the sector IA (pl.IIA,IIB, fig.5).

This structure is identified as the 'Mint House' of Tippu Sultan. The square structure, built of lateritic blocks of varying sizes measures 15.50x19.05m and two to three courses of lateritic blocks have been seen on the east and southern side of the structure. Entrance is from northern side provided and with flight of steps leading to the guardrooms on the either side. Aisles and verandas surround the central courtyard measuring 5.80x3.10m. A small square room on the western side measures 4.85x2.20m. The central courtyard is followed by a tired structure with a long hall having spacious verandas. The brick bonding of the walls of the hall is in header and structure order. More than 300 coins and ingots have been unearthed from this structure. Two ovens were exposed on the north-east corner of the structure measuring 0.50x0.40m. The finding of large number of coins and ingots and oven indicate that minting of coins was undertaken in the fort area and that this structure served probably as a Mint House. The northwestern side of str- 2 is connected with str-3 as evidenced by a 17.0-meter long single row of laterite wall.

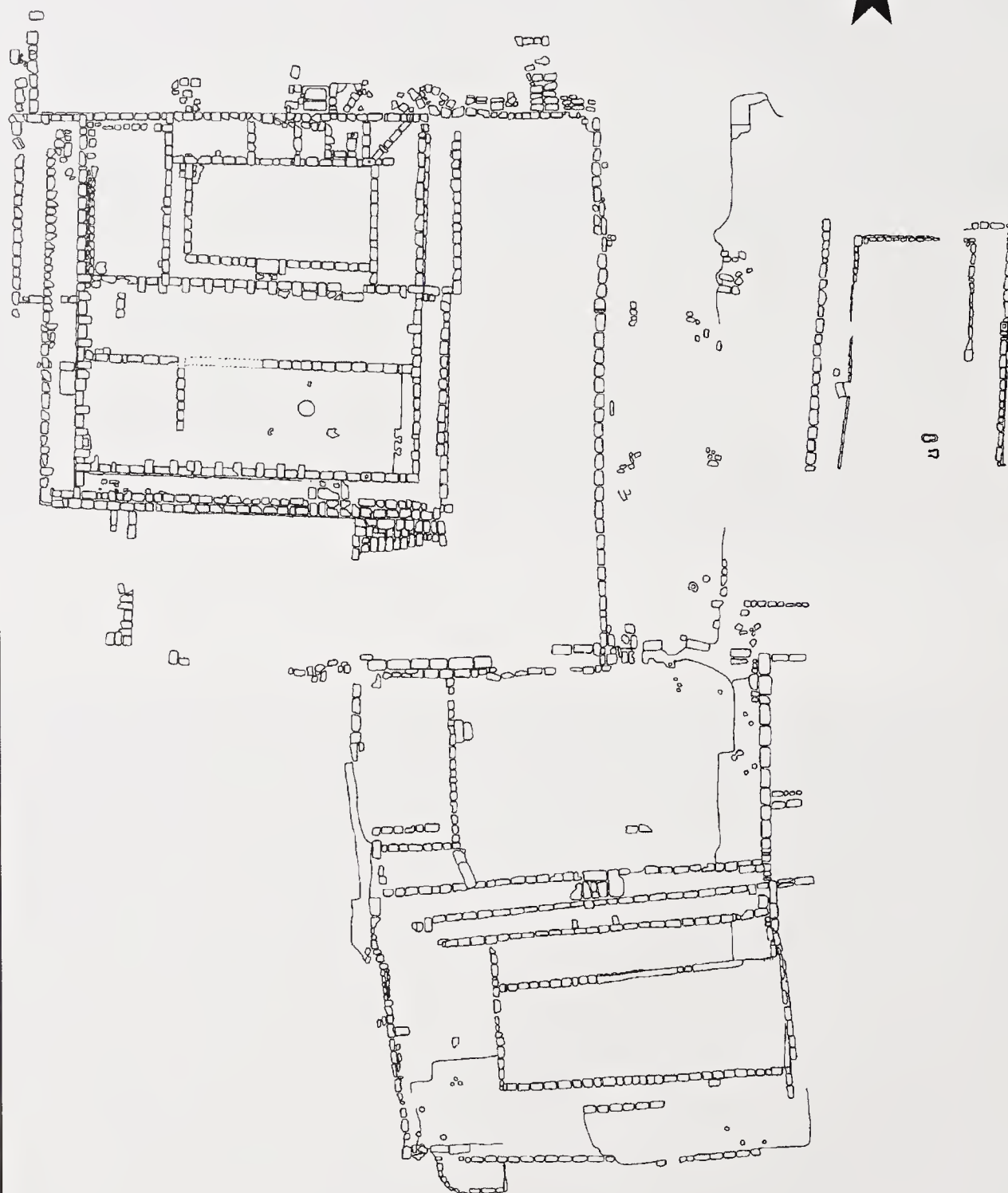
Str-3

Structure-3 is a house complex facing north, which might be a part of the Mint House. The structure consists of a spacious courtyard with 10.0m length and 6.40 m width (pl. IIIA, fig5).

BEKAL FORT : 1997-2001

DISTRICT : KASARGOD, KERALA

BKL - IA, Str - 2, 3 and 4



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Fig. 5 : See pp.15 and 19

BEKAL FORT : 1997-2001
DISTRICT : KASARGOD, KERALA
BKL - IA, Str - 5

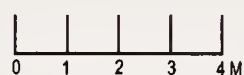
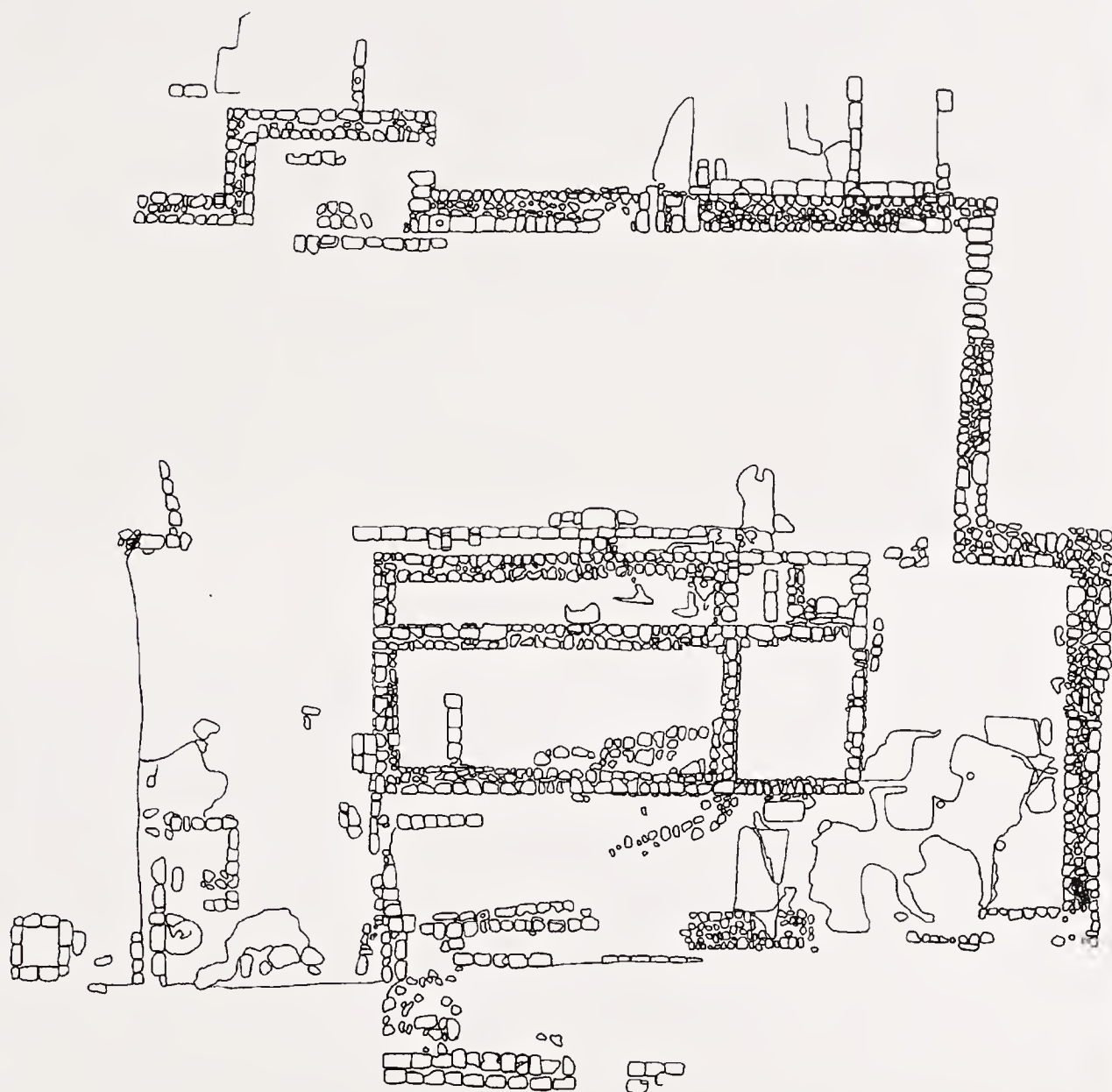


Fig. 6 : See p. 19



Pl. IIIA : *BKL-IA, Str —2,3 and 4 View from west. See p. 15*



Pl. IIIB : *BKL-IA, Str-5, View from north. See p. 19*

A single room measuring 5x3m is located on the west of the courtyard. Access to the room is through east, and has a flight of steps. On the center of the courtyard, a flight of steps leads to an elevated structure of a long hall (9.30x3.20m) with verandas on either side.

Str-4

This structure is located on the east of the mint house. It is a square structure having stonewalls on three sides and an opening on the south. Two pear shaped ovens are exposed on the southeastern side of the str-4 measuring 1x0.50m. (fig. 5).

Str-5

Structure-5 is a two-roomed residential complex with a massive periphery wall on north, east and southern side (pl. IIIB fig.6). Structure-6 faces to north and the entrance is provided with flight of steps. The whole structure measures 11.20x6.30m. The structure consists of a verandah long hall and a single room. The hall and room measures 7.20x2.65m and 3.10x2.45m respectively. The periphery wall has thickness of 0.7m.

BKL-IB

Excavation on the north-west part of BKL-IB brought to light a group of structures comprising residential buildings and a palace complex. The residential structures are planned in *chatur sala* or *nalukettu* pattern with sanitary arrangements.

Str-1

Structure-1 is located on the north of sector IB. It is a square platform rising to height of 1.40 m from the ground level and has length of 6.50 m and 5.50 m width (pl.IV-A,B, pl.V-A, fig.7). Nine courses of lateritic blocks were noticed on the south-west part of the structure; the floor is paved with laterite blocks measuring

40x20x12, and 45x25x10 m. Two phases of structural activity can be traced from this structure. On the ground level of the northeastern corner of the structure a single course of laterite, blocks are arranged in a circular fashion. Fifteen blocks of stones are visible. A drain is located on the south-east corner of the Structure-1. It has an inlet on the west, which enters in to the square tank measuring 1.35x1.35x0.50 m. The covered outlet is located on the east of the structure, oriented in north-south direction. Floor of the tank is paved with small laterite blocks. In front of this structure, there is a monolithic laterite pillar of laterite having a height of 1.50 m.

Str-2

A three-tiered massive rectangular structure is located on the south of the Structure-1, constructed with lateritic blocks measuring 17.20x12.70 m (pl. V-B, VI-A,B fig.7). The lower most platform measures 0.70 m. in height, while the middle one is 1.00 m. in height and the top most platform is 1.35 m. in height from the ground level. The width of the lowermost platform is 3.75 m. while the middle and top platforms measure 3.85 x 5.90 m. respectively. The structure is north oriented and the topmost level forms a rectangular structure measuring 18.35x5.09 m. The middle and the lower rectangular areas measure 8.35x3.85 m and 18.35x3.75 m respectively. The second tier has three *bhadra* projections on the northern side. The top floor is paved with laterite, while the other two tiers have mud floor. The square base of wood impression on the platform suggests that originally the structure had provided with wooden pillars. Semicircular clay tiles found in different localities in side the structural complex indicate that there was a superstructure with tiled roof. From the thirteen courses of laterite blocks available on the western side, one can understand the massiveness and stability of the superstructure that existed originally.

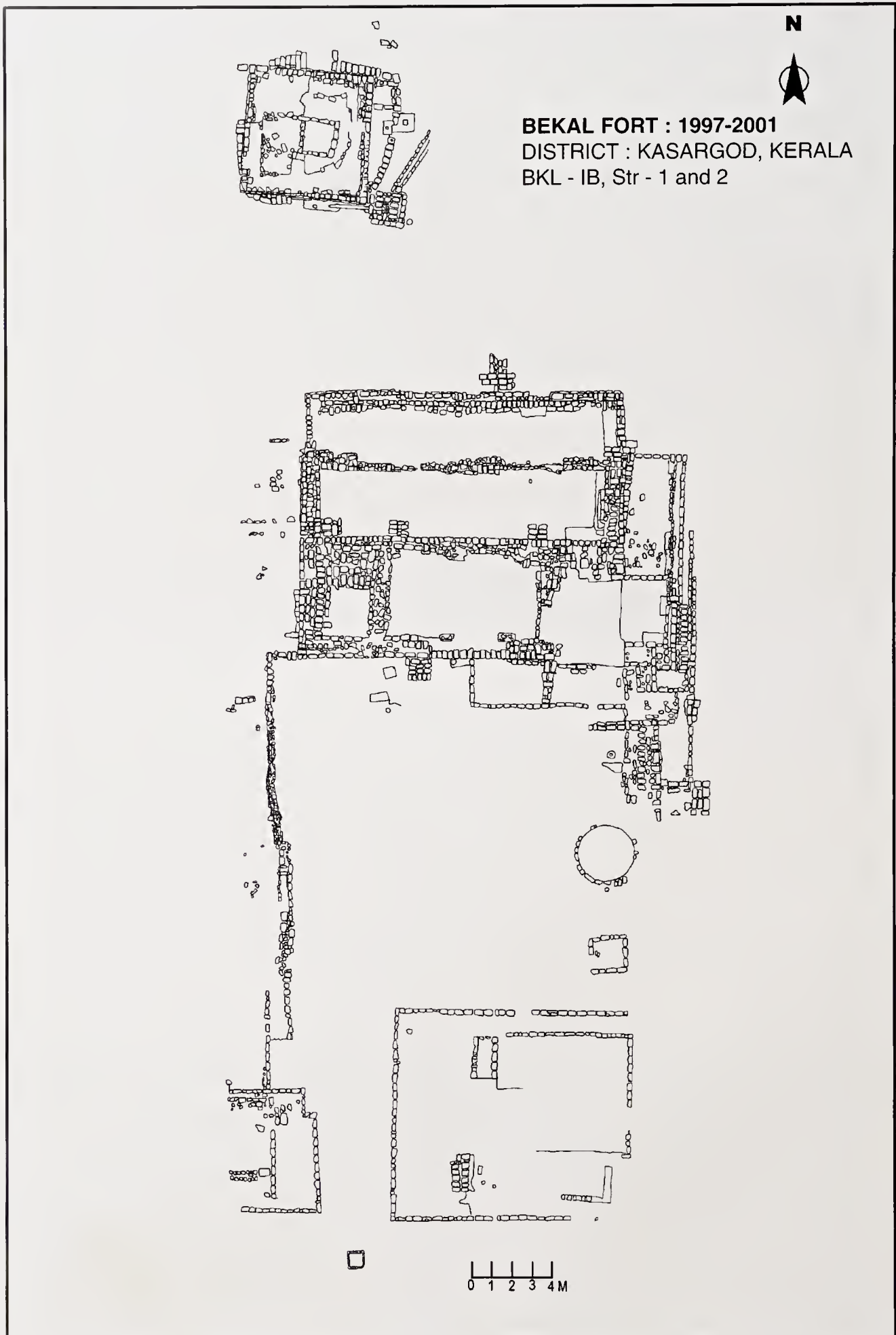


Fig. 7 : See p.19



Pl. IVA : BKL- IB, Platform with a monolithic pillar in front. (Str-1). See p. 19



Pl. IVB : BKL- IB, A close view of platform. (Str-1). See p. 19



Pl. VA : *BKL-IB, Platform, view from south. See p. 19*



Pl. VB : *BKL-IB, Palace-complex, Aerial view (Str-2). See p. 19*

Structure-3,4 and 5 are residential complexes located to the south and west of the palace area. These are in grid pattern with proper drainage facilities. Three to four courses of laterite blocks are visible on the ground level.

Str-3 and Str-4

Structure-3 is located on the north-west of palace area. It is a square structure with a central courtyard (pl. VII-A, B fig.8). The whole structure measures 9.20x9.70 m, while the central courtyard measures 3.85 m in length and 3.25 m in width. On the eastern side of the str-3, a series of laterite structure with sanitary arrangements are seen. An open drain, located on the north of the str-3 to drain out sewage from the houses, oriented in north-west direction has a width of 0.20 m.

In front of str-3 stood the str-4 (fig.8), a long hall (9.20x4.25) with side aisles.

Str-5

This structure is located to the south of str-3 and 4. On plan the structure is reminiscent of the traditional *Nalukettu* house pattern of Kerala (pl.VIII-A, B fig.9). Entrance to the house is on eastern side and is provided with flight of steps. The square planned structure has 18.23 m length and 17.20 m width and thickness of the wall range from 1m to 0.95 m. Four to six courses of laterite blocks are seen from the ground level. The house has stone paved central courtyard measuring 5.2x5.2 m. The laterite blocks paved on the courtyard have varying sizes like 50x30x12, 45x22x10 and 55x34x13 etc. Closed drains are provided on the northeastern portion to drain out the rainwater from the open courtyard. Rooms of different sizes surround the courtyard on the north-west corner of the structure. A room with a stone paved floor (4x1.60 m) with drainage facilities, probably used as a bathroom. A small room is located on the northwestern corner measures 4.20x2.0 m.

BKL-II

Two Structural complexes are unearthed from BKL-II.

Str-1

Structure-1 is located on the north of watchtower. Facing east, this is probably a temple. (pl.IX-A,B, fig.10). The whole structure measures 15.75x9.55 m. The temple is provided with flight of steps. The sanctum square on plan is located measuring 4.44x3.90 m. The base of the sanctum has nine courses of laterite blocks. The sanctum is preceded by a rectangular *mandapa* with a cell on the southern side measuring 9.50x6.20 m. It is followed by another *mandapa* with a concealed drain in the middle. Northeastern side of the *mandapa* is preceded by a long square stone paved hall measuring 11x4.20 m.

Str-2

The Structure-2 at BKL-II is located in between the southern side of watchtower and magazine building. Excavation in this area brought to light the remains of a Durbar hall (pl.X-A,B fig.11). This imposing long rectangular hall (40.22x9.50 m) is built of huge laterite blocks of varying sizes. The elevated floor of the hall is paved with laterite blocks. The structure facing south has a row of postholes on two sides. The central portion on the north has a raised platform measuring 5.90x5 m. There are seven courses on the west and six courses on the northern side. An outer wall of later addition supports western end of the platform. The outer wall was probably added at a later period in order to bear the weight of the superstructure. The eastern side of this platform has a square antechamber with an opening in the east. There is a toilet block on the western part of the structure. The sewage from the toilet block was discharged through a channeled granite stone (1.35x0.55 m) in to a



Pl. VIA : BKL-IB, Palace-complex, view from north (Str-2). See p. 19



Pl. VIB : BKL-IB, Palace-complex, view from east (Str-2). See p. 19

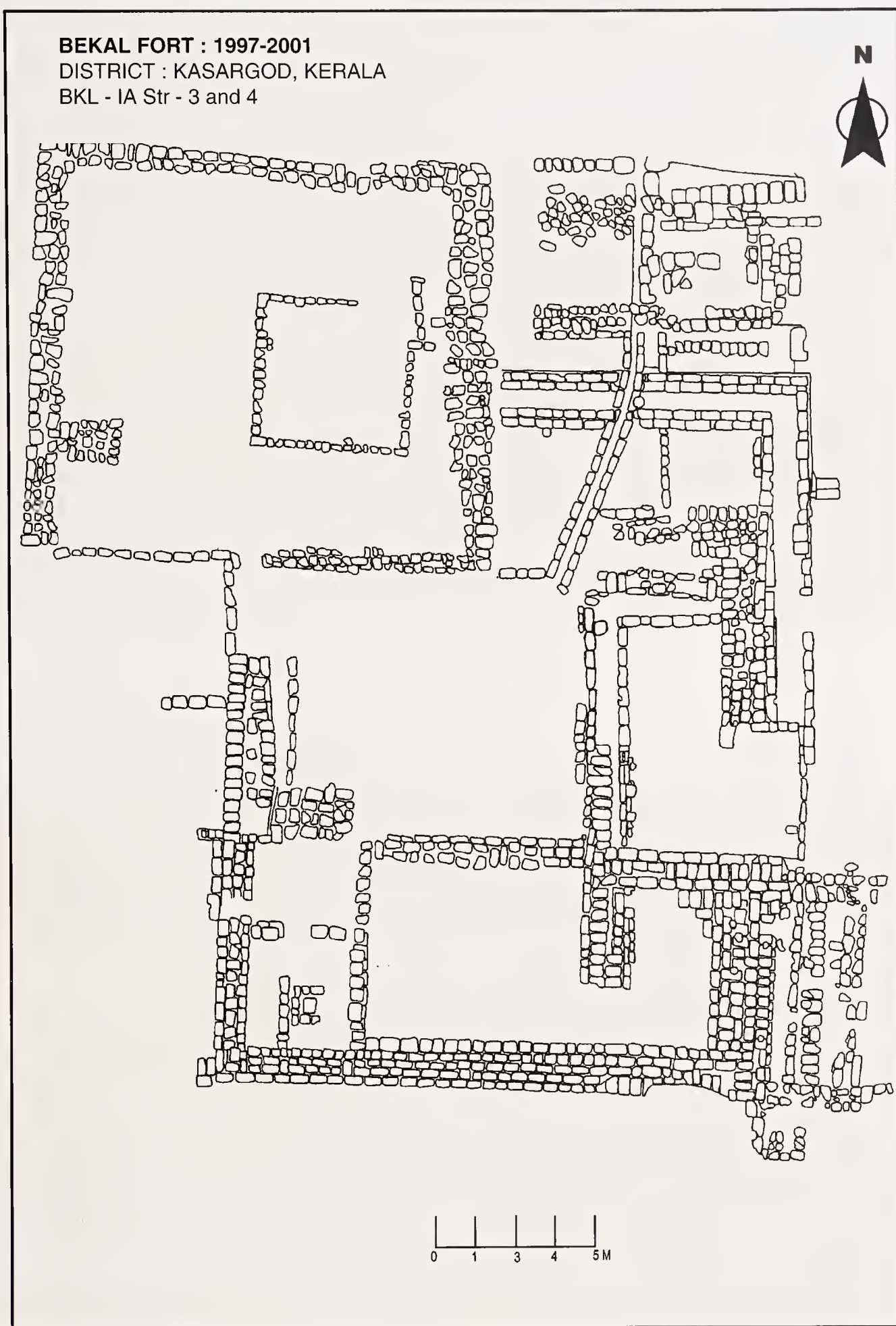


Fig. 8 : See p.23



Pl. VIIA : BKL-IB. General view of residential-complex, view from north. See p. 23



Pl. VIIB : BKL-IB. General view of residential-complex, view from south. See p. 23

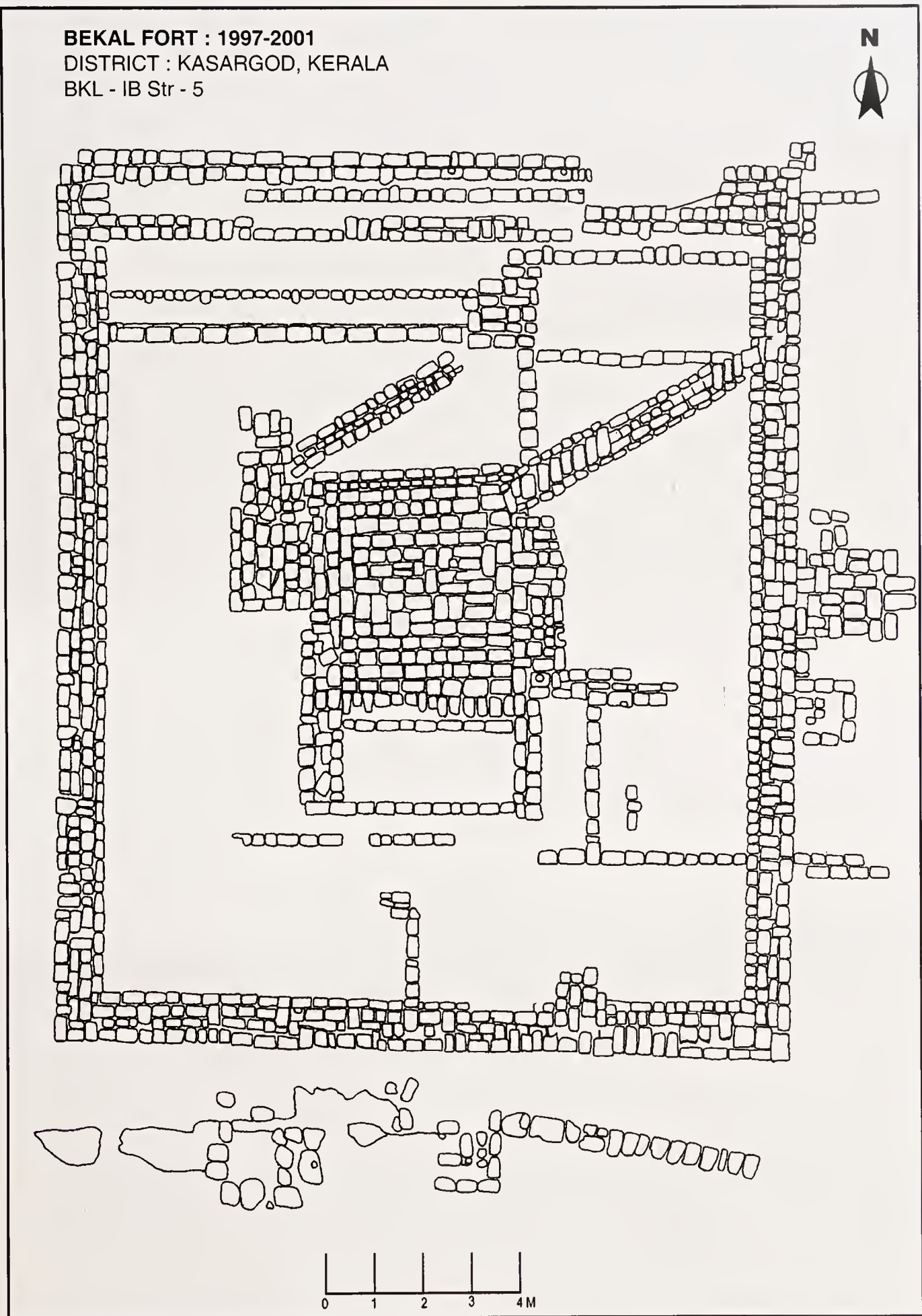


Fig. 9 : See p.23



Pl. VIIIA : *BKL- IB, Nalukettu-complex (Str-5), view from east. See p. 23*



Pl. VIIIB : *BKL-IB, Nalukettu-complex (Str-5), view from south. See p. 23*

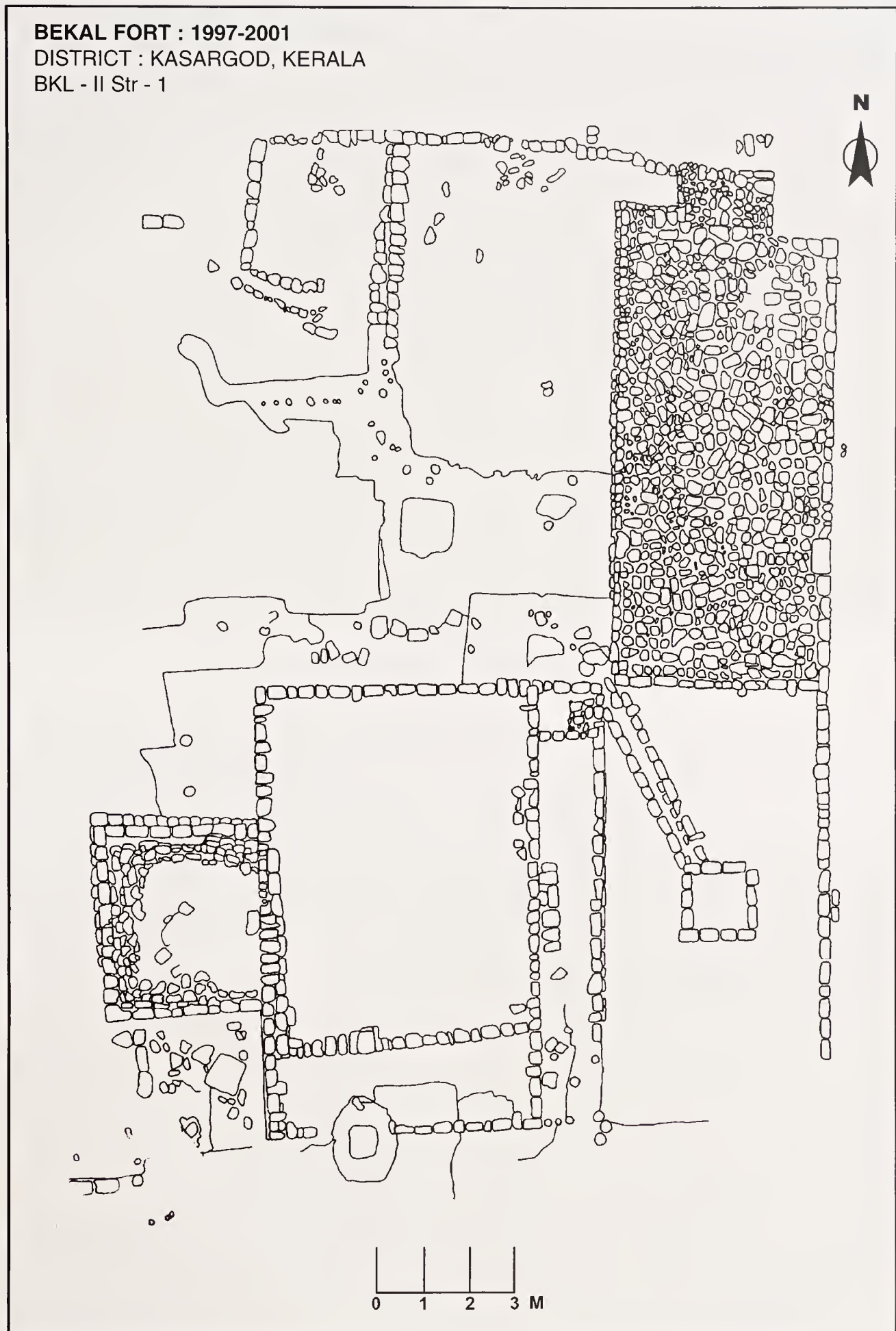
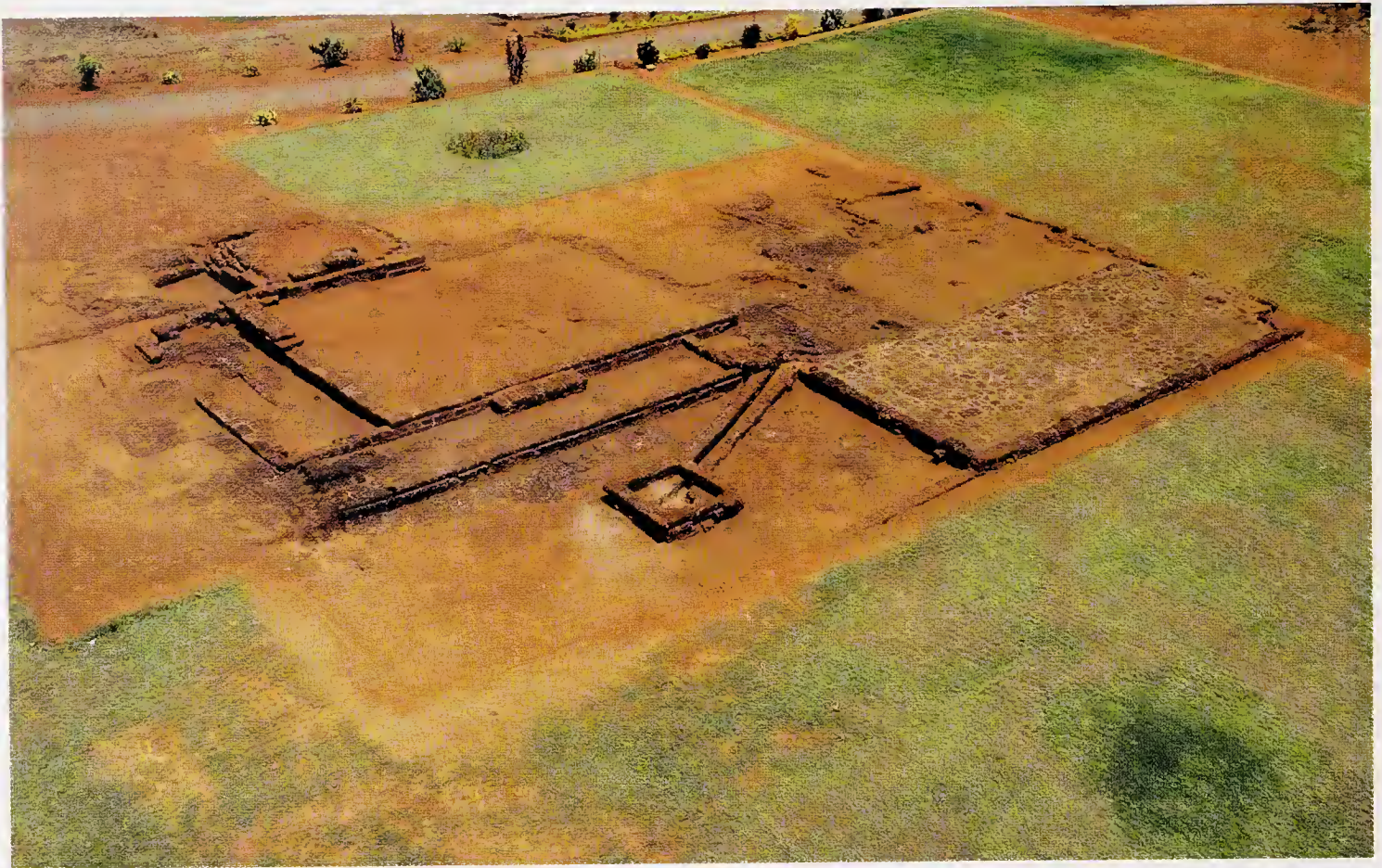


Fig. 10 : See p.23



Pl. IXA : *BKL-II, Aerial view of Temple-complex (Str-1). See p. 23*



Pl. IXB : *BKL-II, Temple-complex (Str-1). See p. 23*

BEKAL FORT : 1997-2001
DISTRICT : KASARGOD, KERALA
BKL - II Str - 2



Fig. 11 : See p.23



Pl. XA : BKL-II, Durbar Hall, view from north (Str-2). See p. 23



Pl. XB : BKL-II, Durbar Hall, view from south (Str-2). See p. 23

BEKAL FORT : 1997-2001

DISTRICT : KASARGOD, KERALA

BKL - III Str - 1

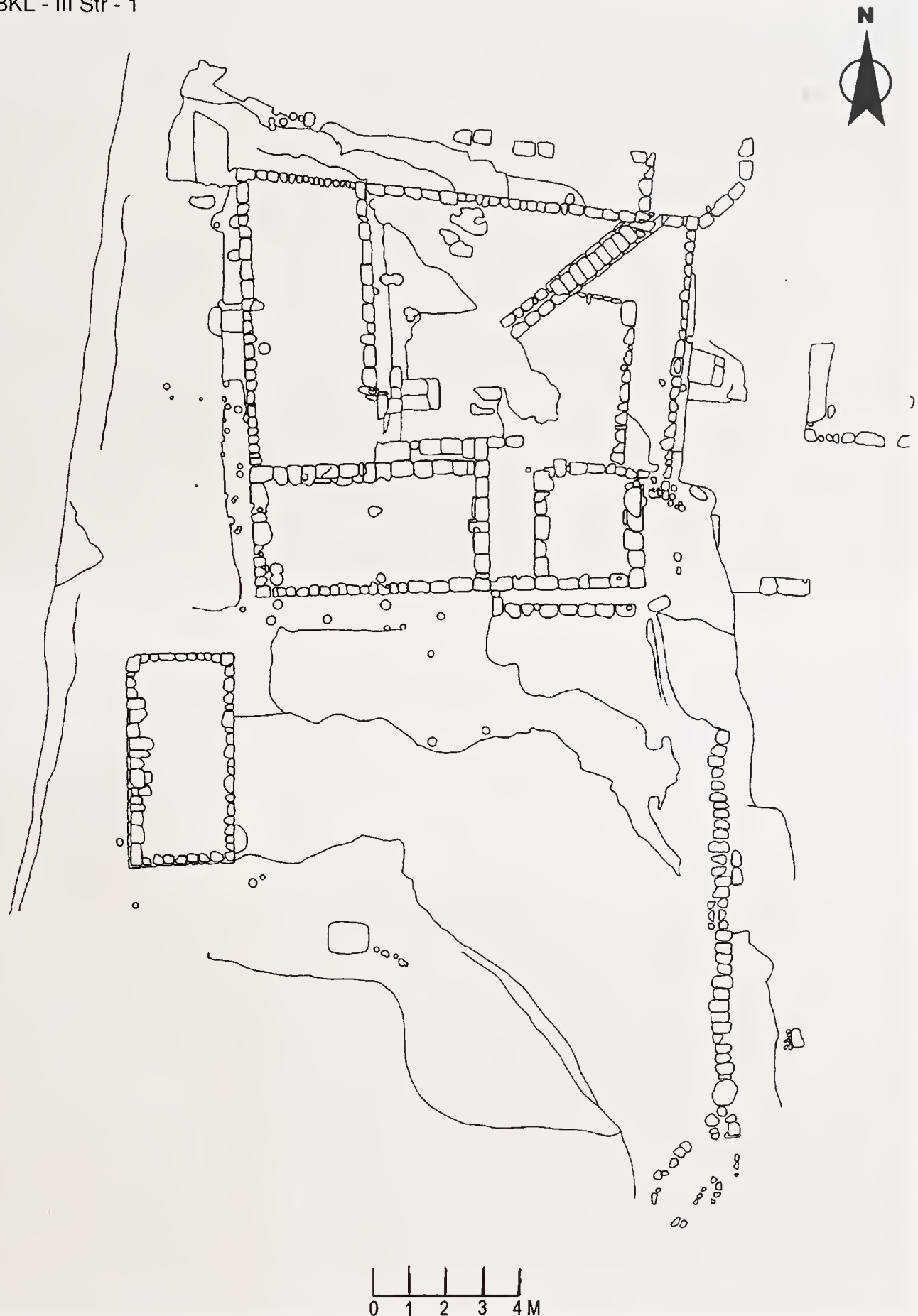


Fig. 12 : See p.35



Pl. XIA : Sector-III, Residential-complex, view from west (Str-1). See p. 35



Pl. XIB : Sector-III, Residential-complex, view from north (Str-1). See p. 35

circular tank, which was scooped out in laterite bedrock. The excavation also revealed a semi circular well in the northwestern corner of the Durbar hall.

BKL-III

Str-1

A residential complex was unearthed in BKL-III. It is built directly over the lateritic bedrock. Laterite blocks of different sizes were used for the construction of walls. Entrance is from northern side and the structure measure 11.70x12.60 m (pl.XI-A,B fig.12). The house complex has an open

courtyard in the middle from which access has been provided to various rooms. The central open courtyard measuring 6.90x7 m was provided with a closed drain on the north-east corner. There is a small veranda, located in front of the courtyard (1.30x6.20 m), besides there are two rooms (7.20x2.30 m and 7.60x2.70 m) on the west and south of courtyard. A square structure on the south-east corner of the courtyard probably, served as the bathroom. On the north of this structure there is an isolated rectangular platform measuring 3.80x2.95 m.



Pl. XIIA : Porcelain ware. See p. 41



Pl. XIIB : Inscribed porcelain ware. See p. 41

POTTERY

Structural remains and ceramic assemblages indicate that Bekal is a single cultural site of medieval period (sixteen century AD-eighteen century AD). The Pottery from Bekal comprises of four major fabrics namely, Red Ware, Buff Ware, Black Ware and Glazed Ware.

The fabric of pottery ranges from medium to fine. All pottery types are wheel made. The clay is well-levigated. However, a small percentage of pottery is not consistently fine, contains fine gravel and has sand particles as tampering materials. Some of the vessels have burning marks on the exterior. Paintings on the Red wares are restricted to parallel lines over the shoulder.

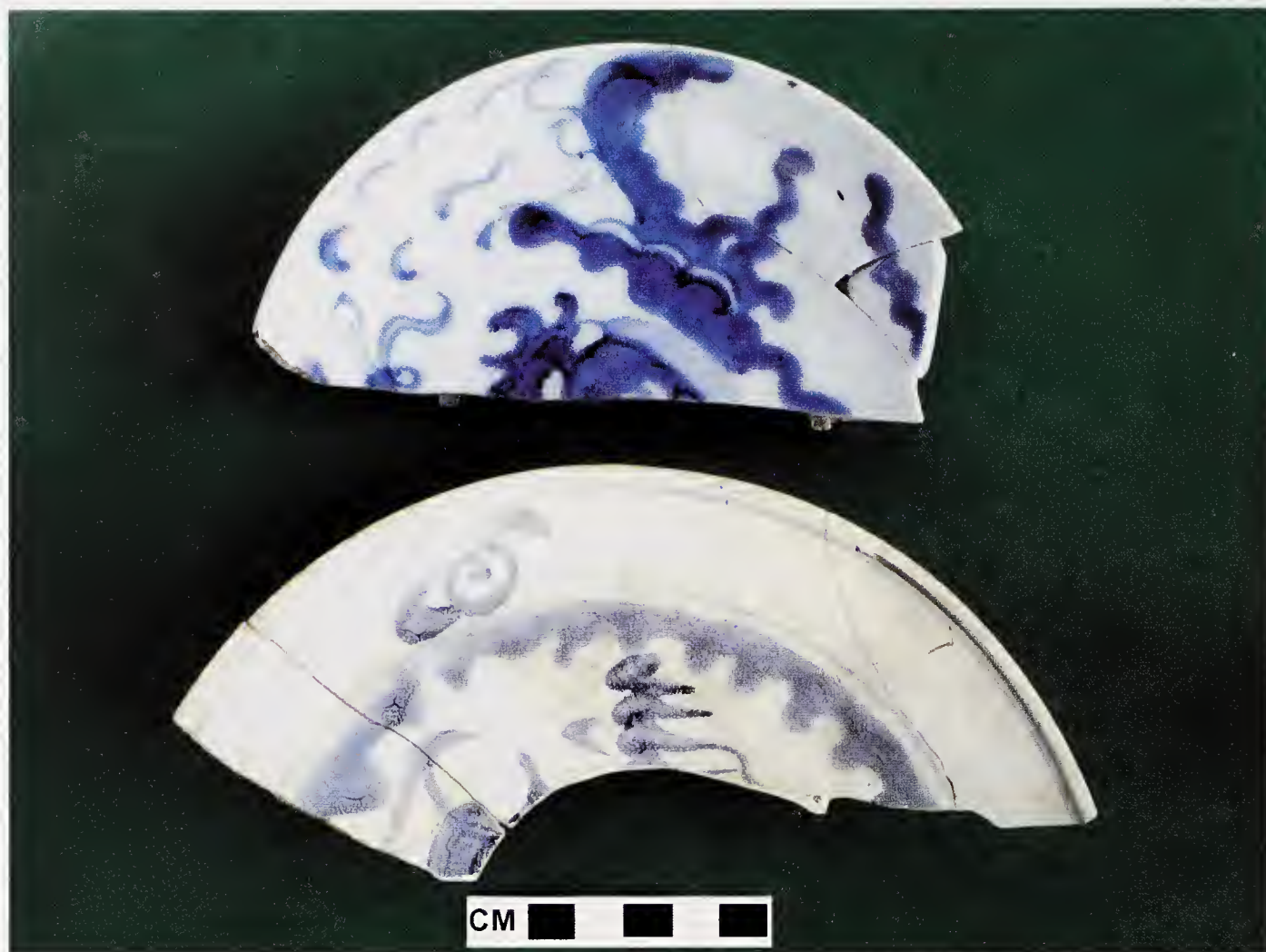
The types available in red ware are dishes, bowls, medium sized vases and storage jars. Mostly it is treated with red or dull red slip. Some wares are characterized by mottled and burnished surfaces. Some pots have burning marks on the rim and the body, which indicates that the vessel was used for cooking purpose. Buff wares are also made out of well-levigated clay and are of medium fabric. Some of them have coarse fabric and gritty rough surface.

There are three type of Glazed ware, unearthed from Bekal. Among them, predominant one is Porcelain which can be classified in two; porcelain of milky white in colour and Plain Glazed Ware of late medieval period. The former is of thin fabric and is decorated with painted designs in blue. It may be assigned to seventeen-eighteen century

(Dhavalikar, 1999). Bowls with ring base are the predominant type.

The second group comprises of Porcelain of more degenerative type. They have coarse sandy fabric and a greenish white glazed surface. Their crackled surface may be due to the salt glazing (AI;No-10) or the thermal expansion and contraction of the ceramic at the time of manufacture. The designs are in dull blue or dull green colour. Similar pottery has been reported from Kottapuram near St. Anjelo fort in Kannur district. (Personal communication, Ajit Kumar.) The third variety, represented by a single shred, is 'Enameled ware' of late eighteen century. A few shreds of Iron Glazed Ware were also found from the upper level of BKL-I and BKL-II. The Iron Glazed ware has a brownish or chocolate-brown gaze surface (pl-XIIIA). Two different fabrics of this ware have been identified. One has whitish core of sandy friable texture and the other has a reddish earthen body. The pot is invariably glazed up to the mouth. When it is heated at more than 1100° C iron content in the glaze is oxidized to form Fe³⁺ resulting in brown coloration.

Over all treatment of the pottery, its quality, firing nature, finish of the body and lack of painted designs obviously indicate that during the late medieval period the pottery making technique faced a serious set back. This is because the use of pottery in medieval time became more ornamental or decorative among the upper class (AI; No-13).



Pl. XIII A : *Porcelain ware. See p. 37*



Pl. XIII B : *Celadon ware, Iron glazed ware, polychrome ware. See p. 45*

Red Ware (fig.13)

1. Dish of red ware with featureless rim and convex side. Grooves on the shoulder, with flat ring base. Medium fabric and well-fired.
2. Dish of red ware with featureless incurved rim and convex sides. Grooves on the shoulder with a flat ring base. Medium fabric and well-fired. Burning marks on the exterior of the base
3. Small bowl of dull red ware with slightly incurved featureless rim with a handle like projection and convex sides turning down wards. Medium to fine fabric well-fired. Treated with a dull red slip.
4. Bowl of Red ware with ring footed base and incurved thickened rim. Medium fabric and well-fired core. Both surfaces are treated with red slip.
5. Wide mouthed vase of Red ware with thick and flat topped. Grooved rim. Incised chain design in between the grooves and appliqué wavy design over the belly portion. Medium fabric well-fired.
6. Large vase of Red ware with wide mouth. Cut rim. Straight neck, grooves over the flattop, shoulder and upper part of the round body. Medium fabric, well-fired, external surface is treated with red slip.
7. Vase of Red ware with out-turned thickened and collared rim. Concave neck and globular body have concentric grooves on the shoulder. Of medium fabric and well-oxidized core.
8. Vase of red ware. Short necked externally thickened, thin, out curved and grooved rim, concave neck and globular body. Red painted parallel band around the neck and body. Medium fabric, well-fired. Outer surface is treated with red slip.
9. Vase of a Red ware. Splayed out rim, concave neck and round body with concentric grooves around the shoulder. Medium fabric and well-oxidized core.
10. Vase of red ware with out turned obliquely cut rim, concave neck, bulging profile, round base. Medium fabric, surface is treated with red slip and well fire core.
11. Vase of Red ware with outturned rim and short concave neck. Medium fabric, well-fired and external surface is treated with red slip.
12. Vase of Red ware with outturned flanked rim, concave neck. Medium fabric, well-fired and external surface is treated with red slip.
13. Vase of Red ware with out turned grooved and thickened rim, and concave neck of medium fabric, well-oxidized core.

Buff Ware (fig.14)

1. Fragment of a Bowl of Buff ware with incurved, featureless rim and convex profile with ring- footed base. Medium fabric, well-levigated, mixed with gravel and grit particles, ill-fired.
2. Fragment of a Bowl of Buff ware of medium fabric with incurved featureless rim prominent ring-foot. The smoky core indicates that firing was not uniform. Well-levigated, mixed with grit particles.
3. Vase of Buff ware. Out-turned splayed out rim with concave neck. Medium fabric. well-fired and clay is mixed with grit particles.
4. Vase of Buff ware with out-turned externally grooved and thickened rim. Medium fabric, well-oxidized core and treated with a dull red slip.
5. Vase of Buff ware with out-turned grooved and collared rim with vertical neck. Medium fabric and ill-fired.
6. Vase of Buff ware with out turned externally thickened and cut rim. Almost straight neck, bulging body. Medium fabric devoid of slip

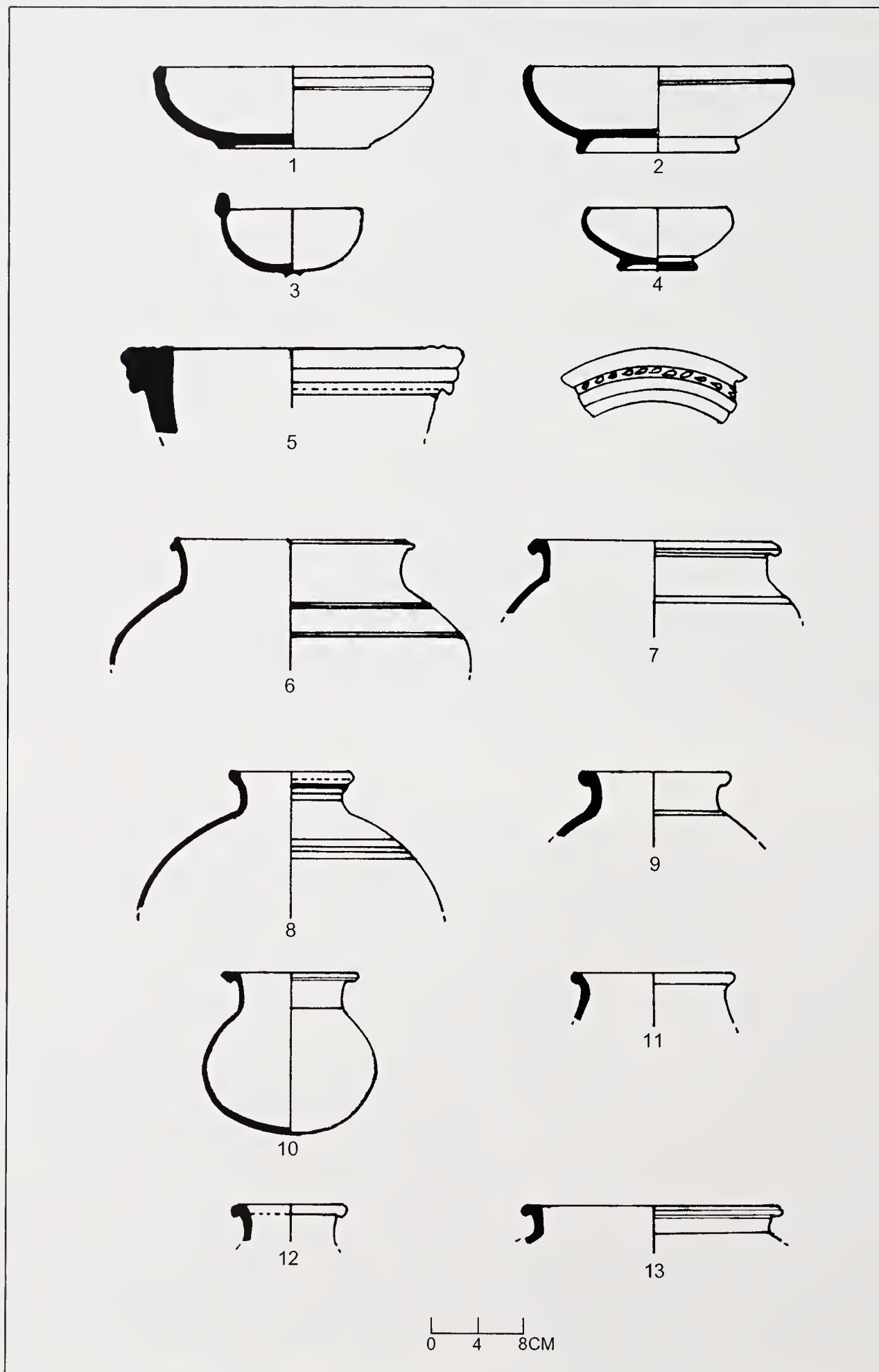


Fig. 13. Red ware. See p. 39

7. Vase of Buff ware with out-curved externally thickened rim, vertical neck and a round body. Medium fabric and ill-fired core. Well-levigated clay is mixed with gravel and silt particles.
 8. Vase of Buff ware. Externally flanged rim, concave neck grooved, carinated body, and low flat base. Exterior is treated with red slip. Well-fired and coarse fabric, well-levigated clay is mixed with grit and stone particles.
 9. Vase of Buff ware with splayed out thickened rim and concave neck. Concentric grooves around the shoulder. Medium fabric, ill-fired.
 10. Vase of Buff ware with out turned flanged, grooved rim and concave neck. Convex profile body and flat pointed base. Medium fabric well-fired and treated with red slip
 11. Vase of Buff ware with out turned thickened rim, concave neck and a bulging profile with looped handle on two sides. Of medium fabric and ill-fired.
 12. Vase of Buff ware with out turned featureless rim and flat base with and concave profile have grooves on the shoulder and body. Of medium fabric and well-fired.
2. Bowl of porcelain. Vertical featureless rim and convex sides. Fine fabric and well-fired. Interior and exterior part of the rim have blue band designs.
 3. Bowl of porcelain with a vertical featureless rim and a convex profile. Fine fabric and well-oxidized core. Painted in blue colour with alternative circles and dots below the rim and floral designs over the body.
 4. Bowl of porcelain. Featureless rim and convex profile. Fine fabric, well-oxidized whitish core. Both the interior and exterior are painted in dull blue colour with bands and floral motifs.
 5. Bowl of porcelain. Featureless rim and a convex profile. Fine fabric and well-oxidized whitish core. Outer surface is painted in blue colour with intricate spiral and floral designs. Interior of the rim has thin blue band.
 6. Porcelain dish. Out turned flaring rim and a convex profile. Fine fabric and well-oxidized core. Interior is painted in light green over the dull white surface. Glaze is not prominent.

Black Ware (fig.15)

1. Vase of black ware with thickened horizontally splayed out drooping rim externally ridged long concave neck with oblique shoulder spherical body and concave base. Of medium fabric and medium fired.
2. Small Vase of black ware with out turned thickened rim, short concave neck convex sides with bulging and round base. Medium fabric and ill-fired.

Glazed Ware

Porcelain ware (pl.XII and XIII A fig.16, 17,18)

1. Bowl of porcelain. Featureless rim. Depression on one side with a convex

profile. Medium fabric and an oxidized core. Painted in blue with concentric circles and hatchings.

2. Bowl of porcelain. Vertical featureless rim and convex sides. Fine fabric and well-fired. Interior and exterior part of the rim have blue band designs.
3. Bowl of porcelain with a vertical featureless rim and a convex profile. Fine fabric and well-oxidized core. Painted in blue colour with alternative circles and dots below the rim and floral designs over the body.
4. Bowl of porcelain. Featureless rim and convex profile. Fine fabric, well-oxidized whitish core. Both the interior and exterior are painted in dull blue colour with bands and floral motifs.
5. Bowl of porcelain. Featureless rim and a convex profile. Fine fabric and well-oxidized whitish core. Outer surface is painted in blue colour with intricate spiral and floral designs. Interior of the rim has thin blue band.
6. Porcelain dish. Out turned flaring rim and a convex profile. Fine fabric and well-oxidized core. Interior is painted in light green over the dull white surface. Glaze is not prominent.
7. Bowl of porcelain. Out curved rim and convex profile. Fine fabric and well-oxidized core. Both interior and exterior is devoid of paintings.
8. Bowl of porcelain with ring foot. Of fine fabric and well-oxidized whitish core. Interior of the base is painted in blue with floral designs.
9. Bowl of porcelain with rim foot. Of fine fabric and well-oxidized core. Interior of the base is painted in blue with fish-scale motifs.
10. Bowl of porcelain with ring foot. Interior is decorated with geometric and floral designs. Fine fabric, well-fired.

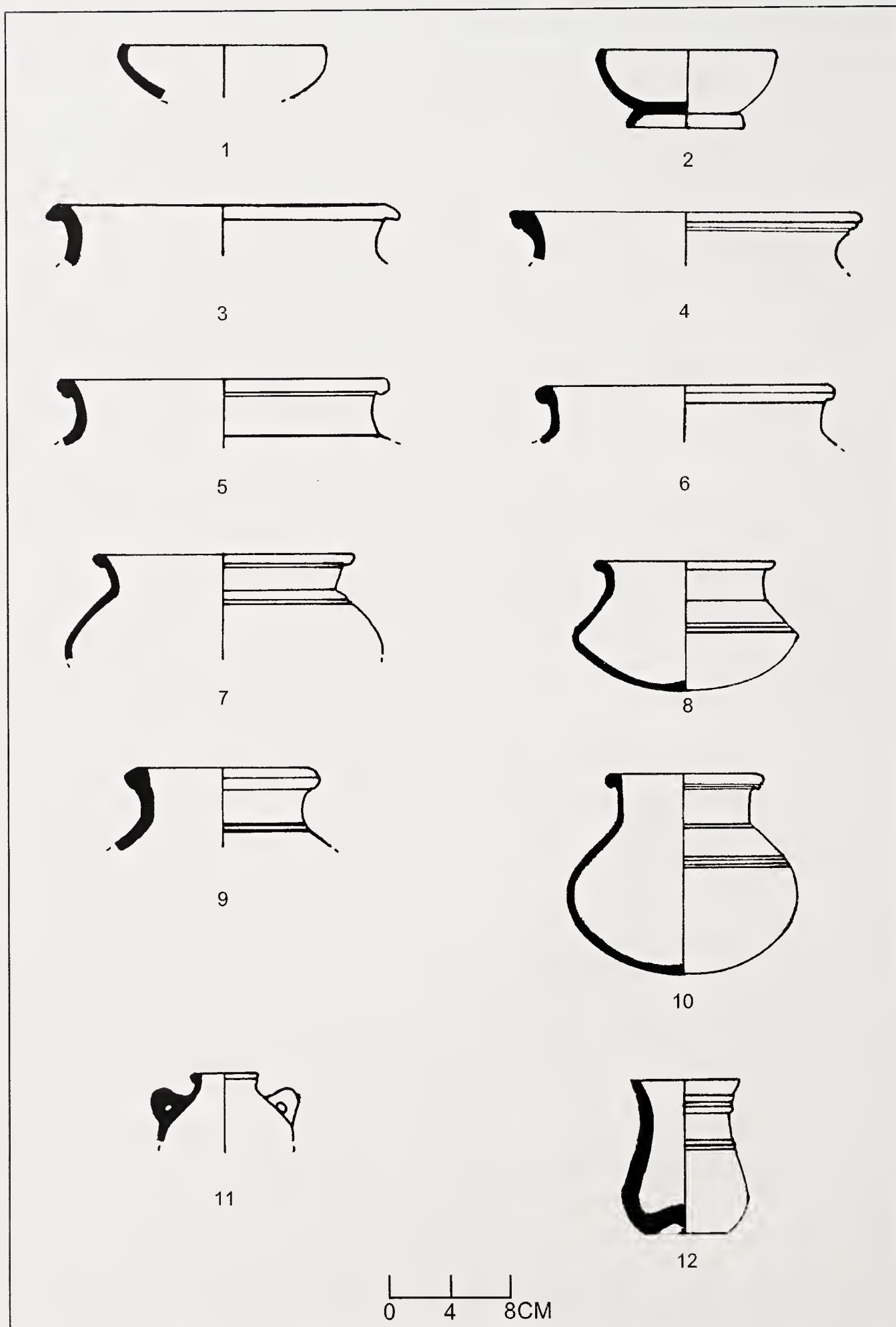
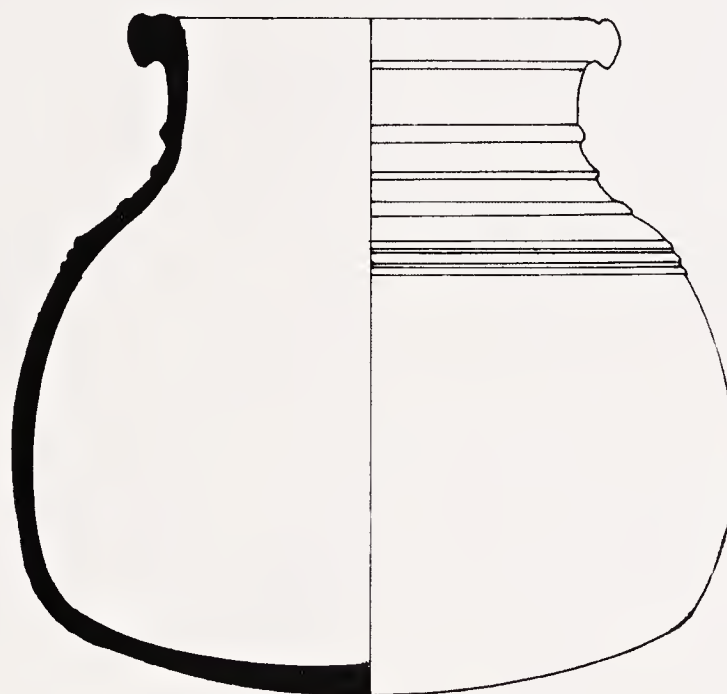
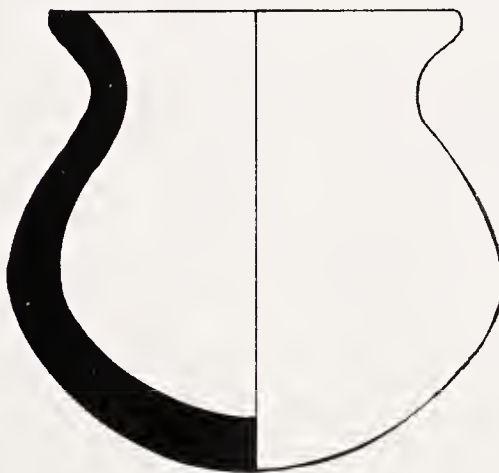


Fig. 14. Buff ware. *See p. 39*



1



2

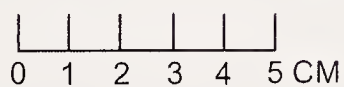


Fig. 15. Black ware. *See p. 41*

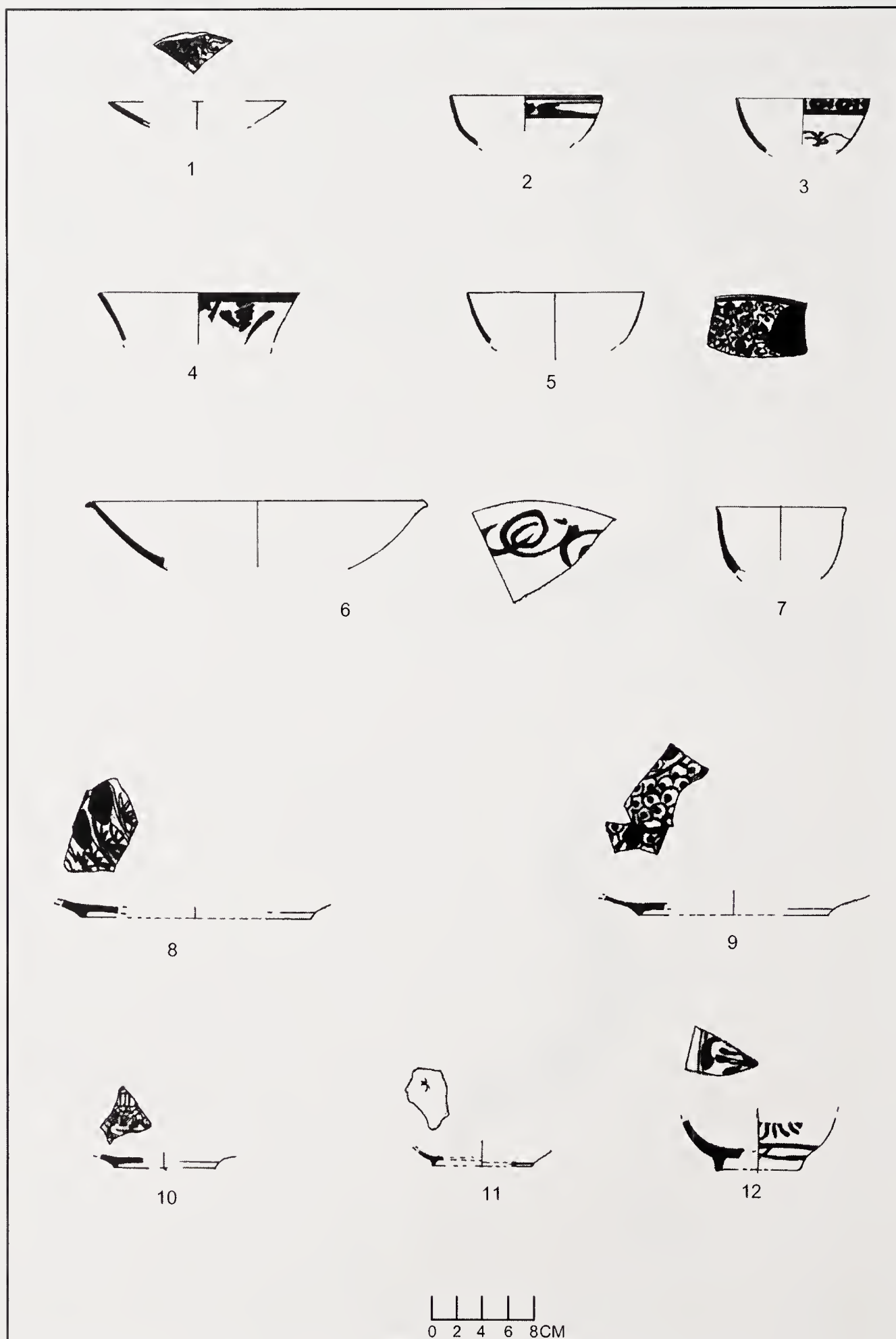


Fig. 16. Porcelain ware. *See p. 41*

11. Bowl of enameled ware with ring foot. Painted in brown colour over the glaze in red with three vertical lines. Fine fabric well-fired.
12. Bowl of porcelain with ring foot. Of fine fabric and well-fired core. Both interior and exterior are painted in blue with bands and floral motifs. Thick blue bands are also seen on the exterior of the base.
13. Bowl of porcelain with featureless rim and ring foot. Of fine fabric and well-oxidized core. Glaze is prominent. Both the exterior and the interior are painted in blue with floral designs and thick wavy lines.
14. Bowl of porcelain with a ring foot, thickened and slightly out turned rim. Fine fabric and well-oxidized core. Crackled surface. Interior is painted in grayish blue colour with floral leaves and wavy lines.
15. Bowl of porcelain with ring foot and featureless rim. Of medium fabric and well-fired core. Painted in grayish blue colour with wavy lines circles and thick bands.
16. Bowl of porcelain with ring foot. Of fine fabric and well-fired core. Exterior of the base is inscribed with Chinese letters.
17. Bowl of porcelain with out turned sharpened rim. Both the exterior and interior of the rim is painted in blue with bands and floral designs. One side of the rim has a vertical Chinese inscription.
18. Bowl of porcelain with ring foot. Of fine fabric and well-oxidized core. Exterior of the rim inscribed with Chinese letters.

Celadon Ware (fig.19, Pl. XIIIB)

1. Celadon ware of medium fabric with a ring base. Surface is treated with a pale green glaze and Light grey coloured thick section. The glaze is absent below the base. The glaze has a crackled appearance

Iron Glazed Ware (fig.20, pl. XIIIB)

1. Vase with thickened flaring rim and concave neck. Looped handle over the shoulder. Applique design over the body. Glaze is extended up to the interior of the neck. Well-levigated, well-oxidized core and of fine fabric.
2. Vase with broken rim and grooved short handle below. Two appliqué dot designs on the upper part of the body. Medium fabric and well-fired.
3. Vase with externally splayed out thickened rim. Fine fabric well-fired and well-levigated.

Polychrome Ware (fig.21, pl. XIIIB)

1. Decorative shred. Polychrome ware with featureless rim. Oblique shoulders with handle and incised chain design. Fine fabric with whitish core. Treated with thin layer of Polychrome glaze.

Miniature Black Ware (fig.22)

1. Miniature vase of Black ware with, carinated profile and low flat base. Fine fabric and ill-fired. Decorations include incised cord designs around the body and incised dots and lines below the rim.
2. Bowl of Black ware with incurved grooved rim having incised cord designs and flat base. Fine fabric and ill-fired.

Miniature Porcelain Ware (fig.23)

1. Porcelain bottle with a looped handle. The glaze is pale green in colour and design executed in white colour. The glaze extended in to the inner mouth of the bottle.
2. Bowl (?) of porcelain with vertical featureless rim and straight body. Fine fabric. Devoid of paintings.
3. Vase of porcelain with ring foot and globular body. Appliqué floral design with

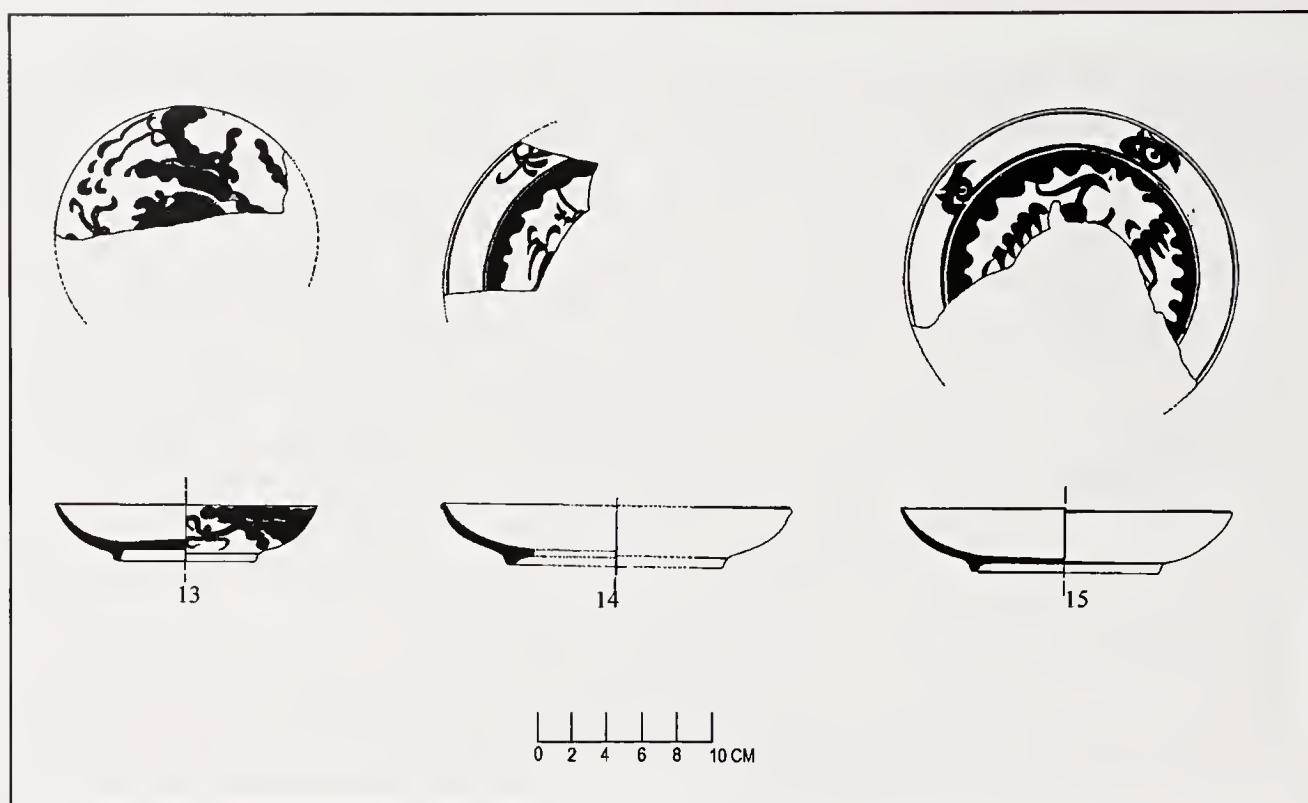


Fig. 17. Porcelain ware. *See p. 41*

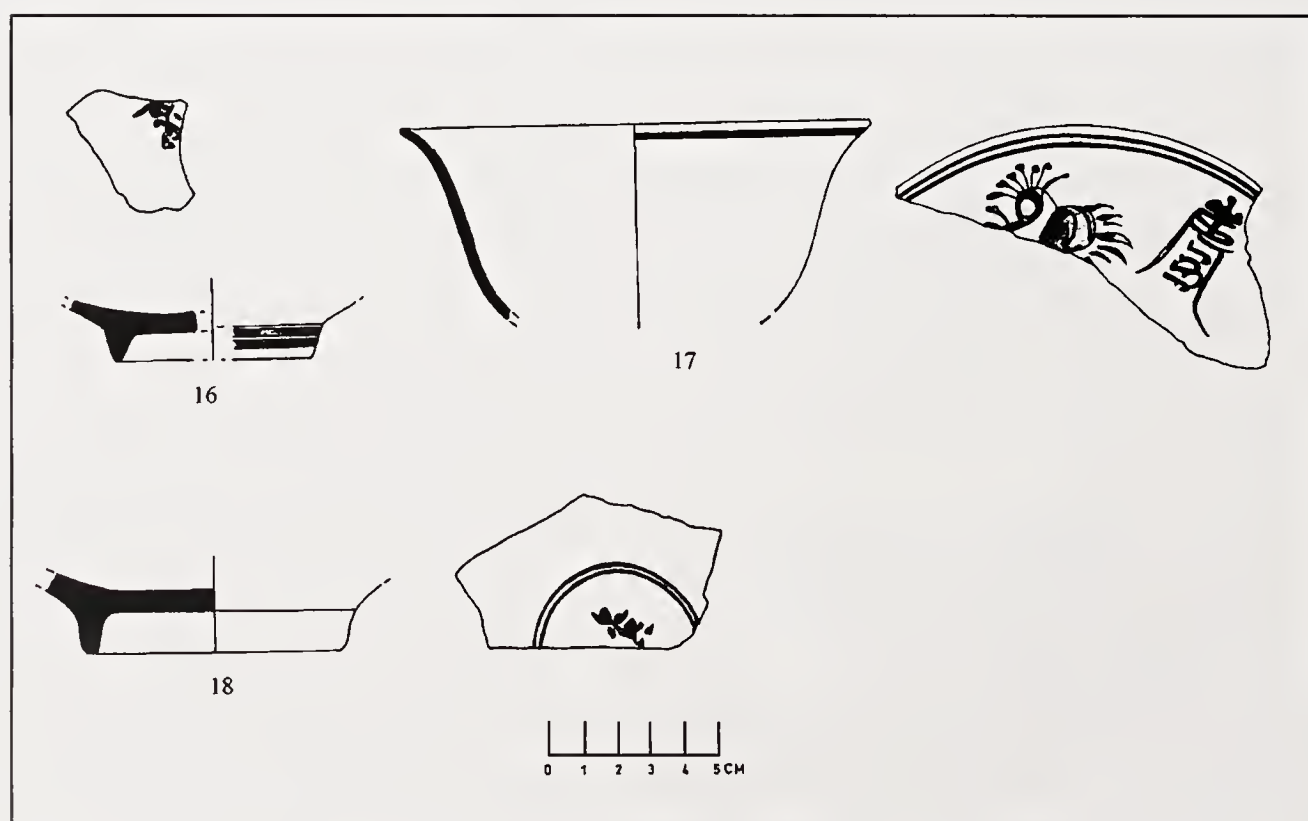


Fig. 18. Inscribed porcelain ware. *See p. 41*

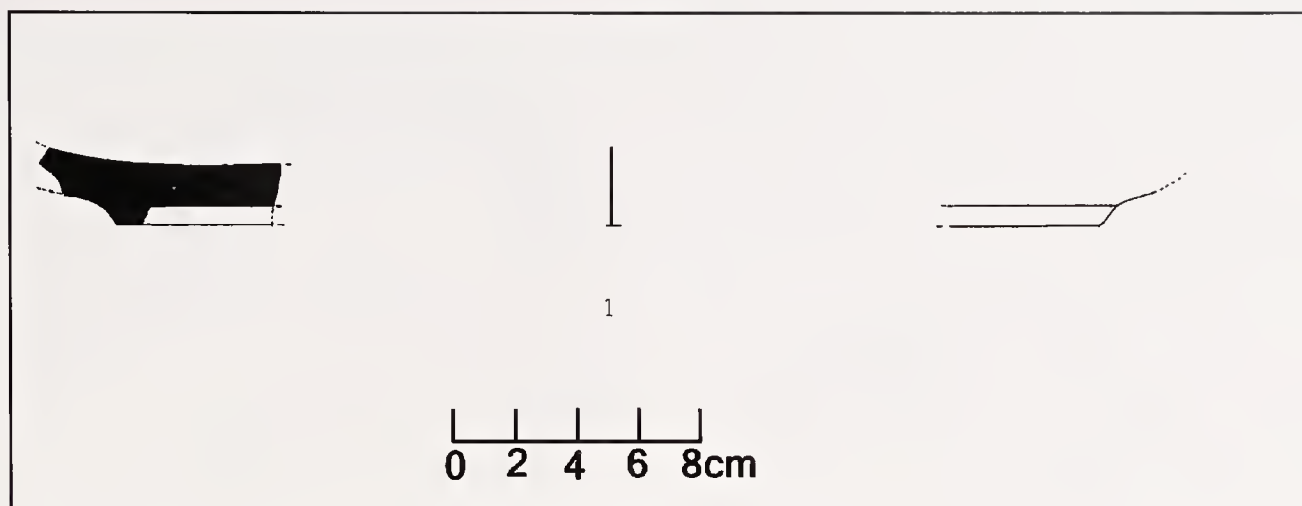


Fig. 19. Celadon ware. *See p. 45*

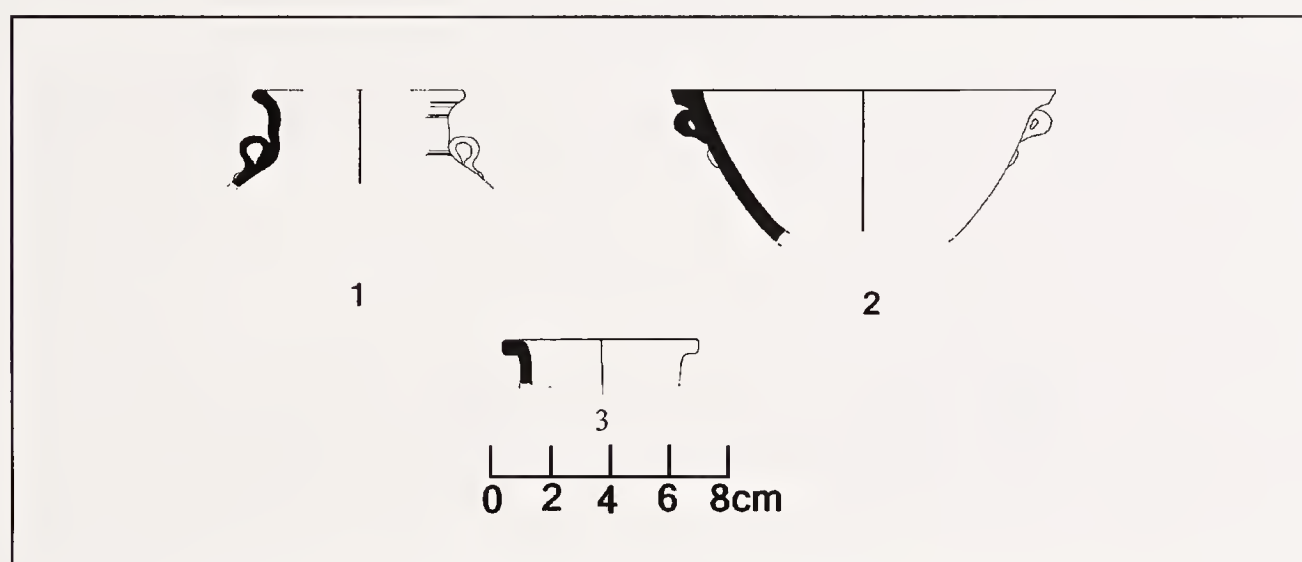


Fig. 20. Iron glazed ware. *See p. 45*

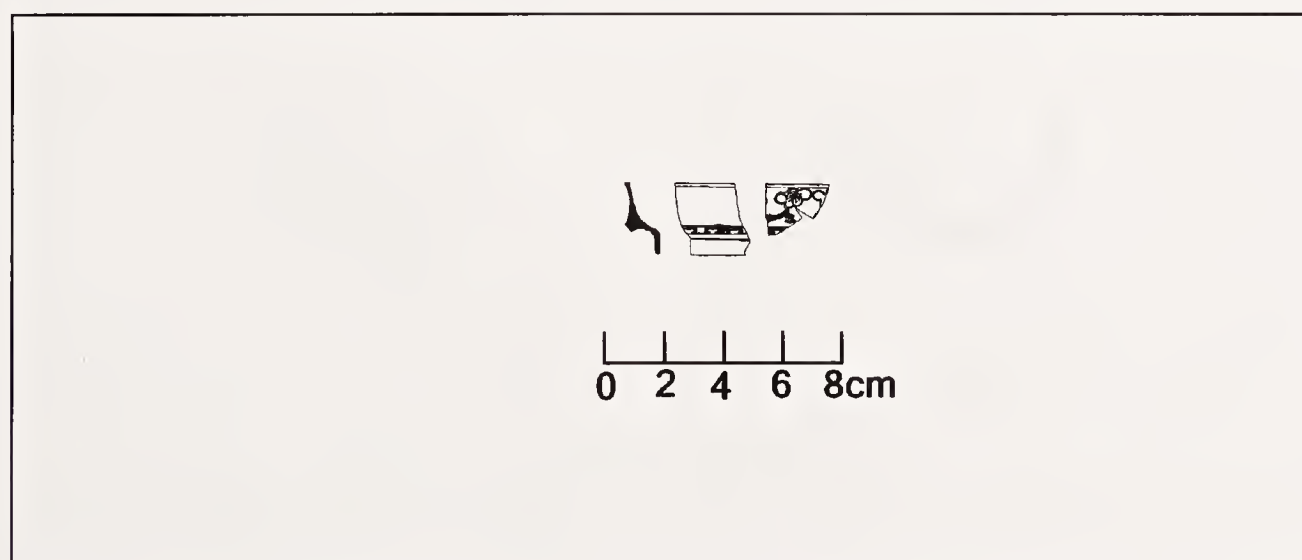


Fig. 21. Polychrome ware. *See p. 45*

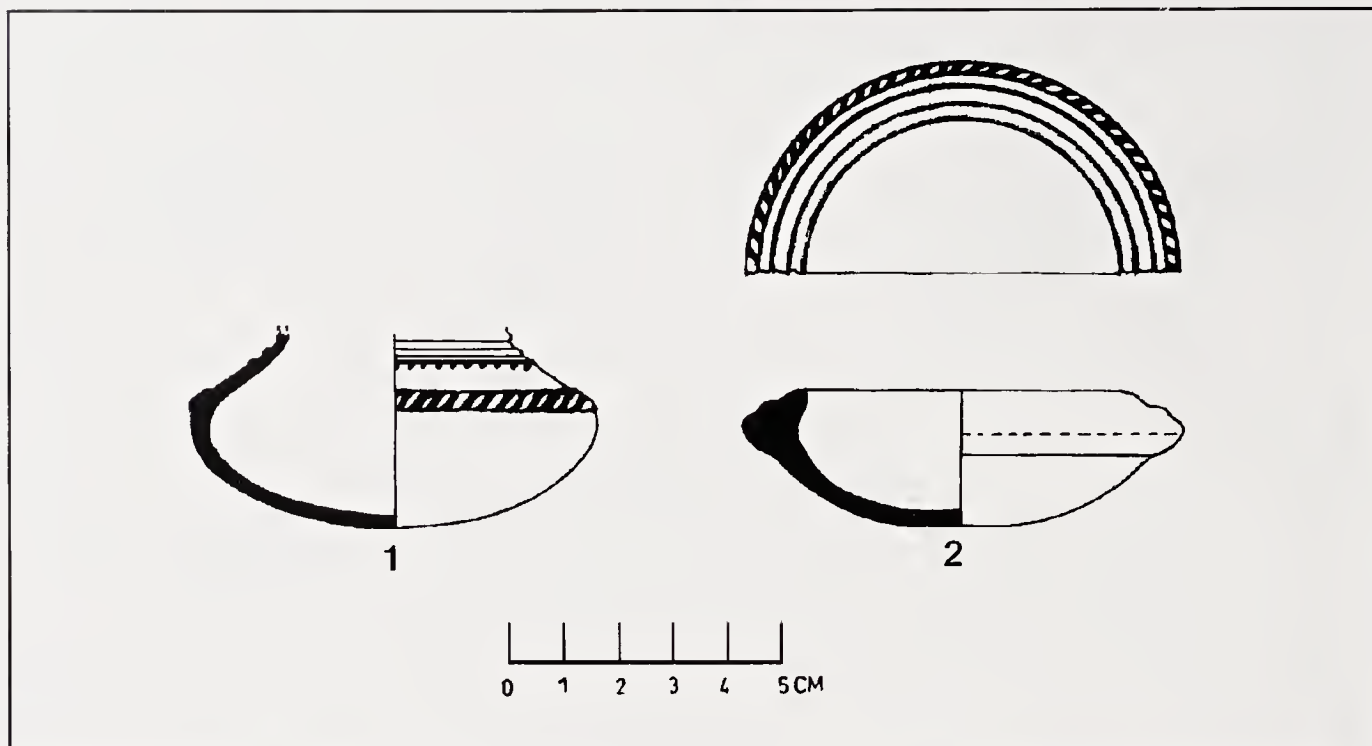


Fig. 22 Miniature black ware. *See p.45*

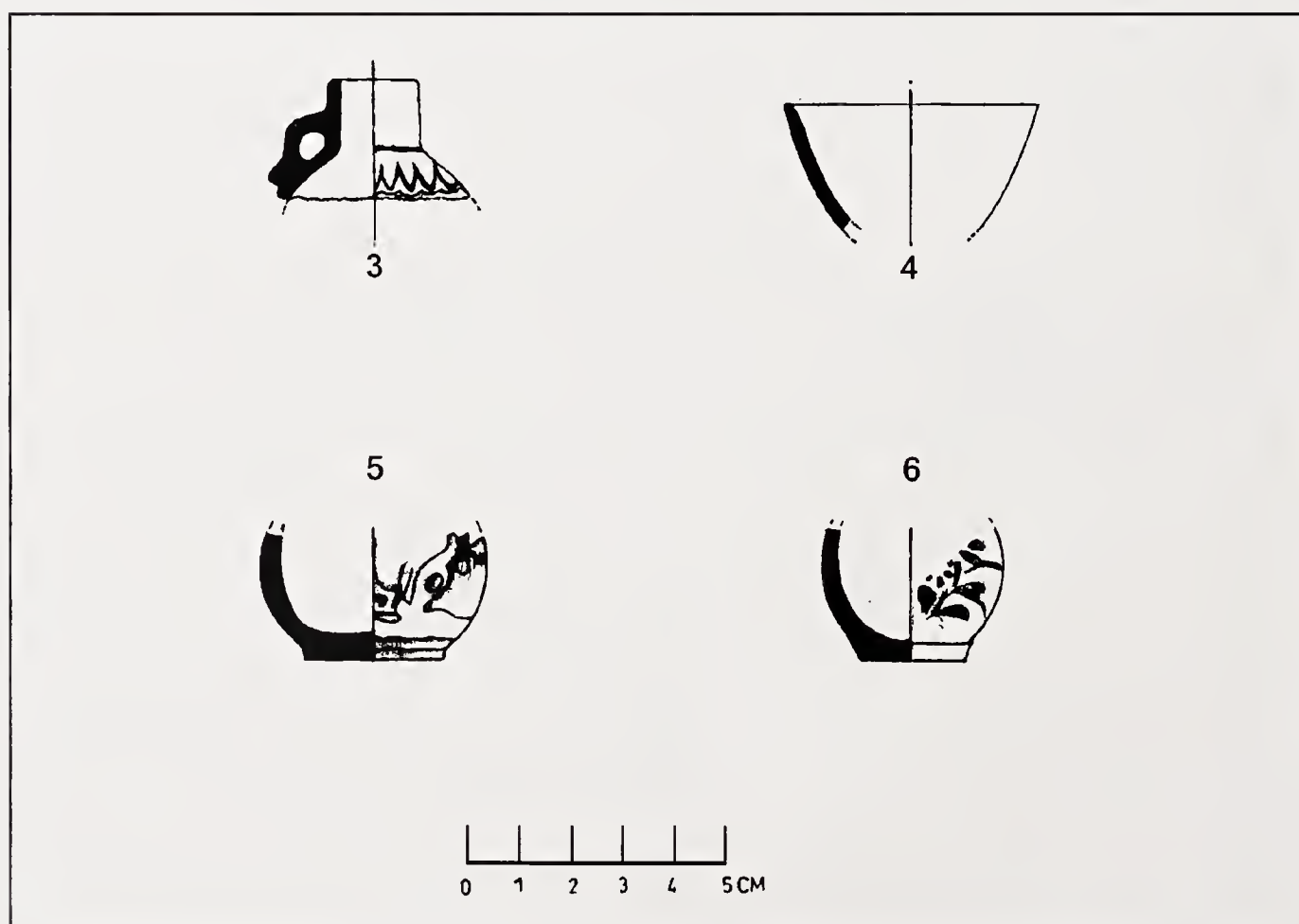


Fig. 23. Miniature procelain ware. *See p. 45*

Pottery

petals over green surface. Fine fabric and well-fired.

4. Vase of porcelain with discular base and globular body. Painted in white colour with floral designs.

Decorated pottery (fig.24 A and B)

1. Broken part of Buff ware. Appliqué cord impression around the body. Medium fabric,

uneven inner surface indicating hand made nature.

2. Broken part of Iron glazed ware. Stamped motifs of Eagle and Dragon.
3. Broken part of porcelain. Both sides are painted in blue colour with insect motif and geometrical designs.

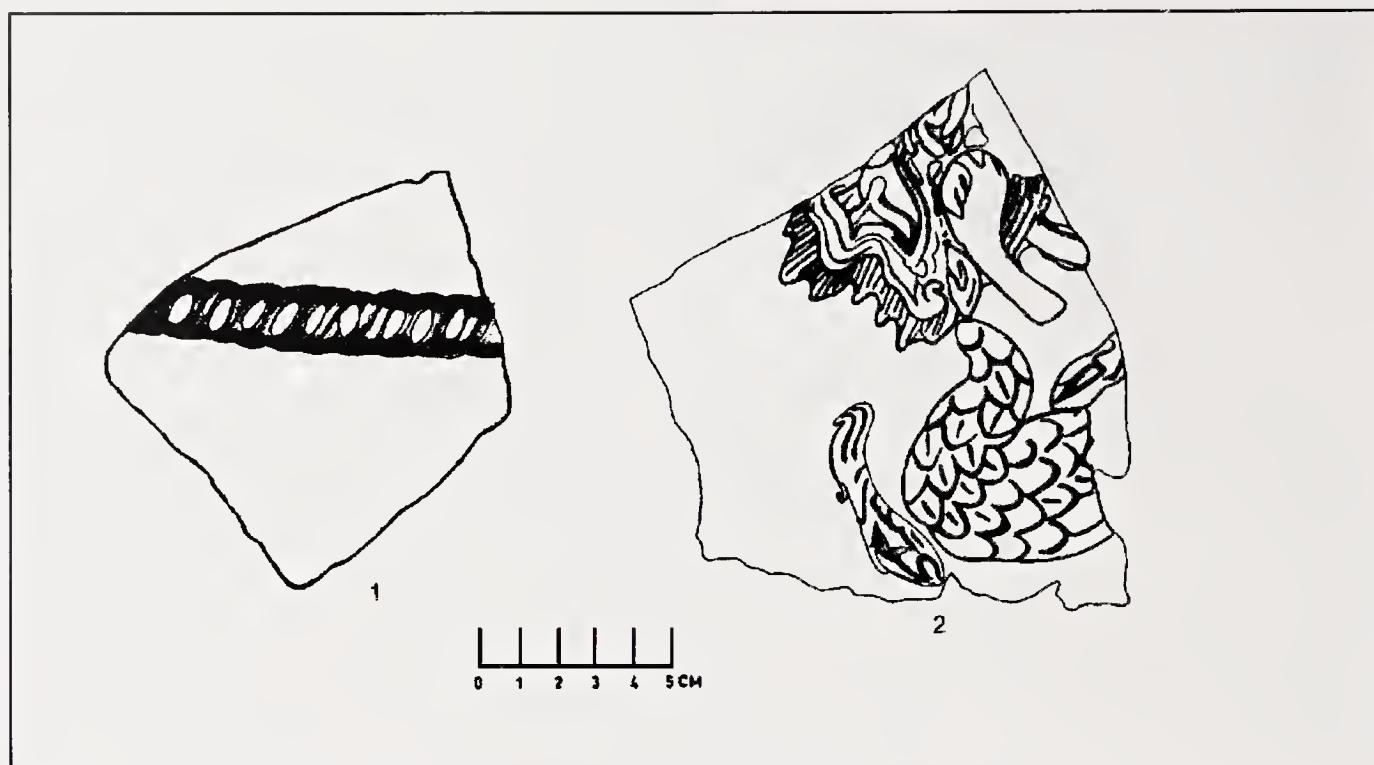


Fig. 24A. Appliqué design in buff ware and Iron glazed ware. *See p. 49*

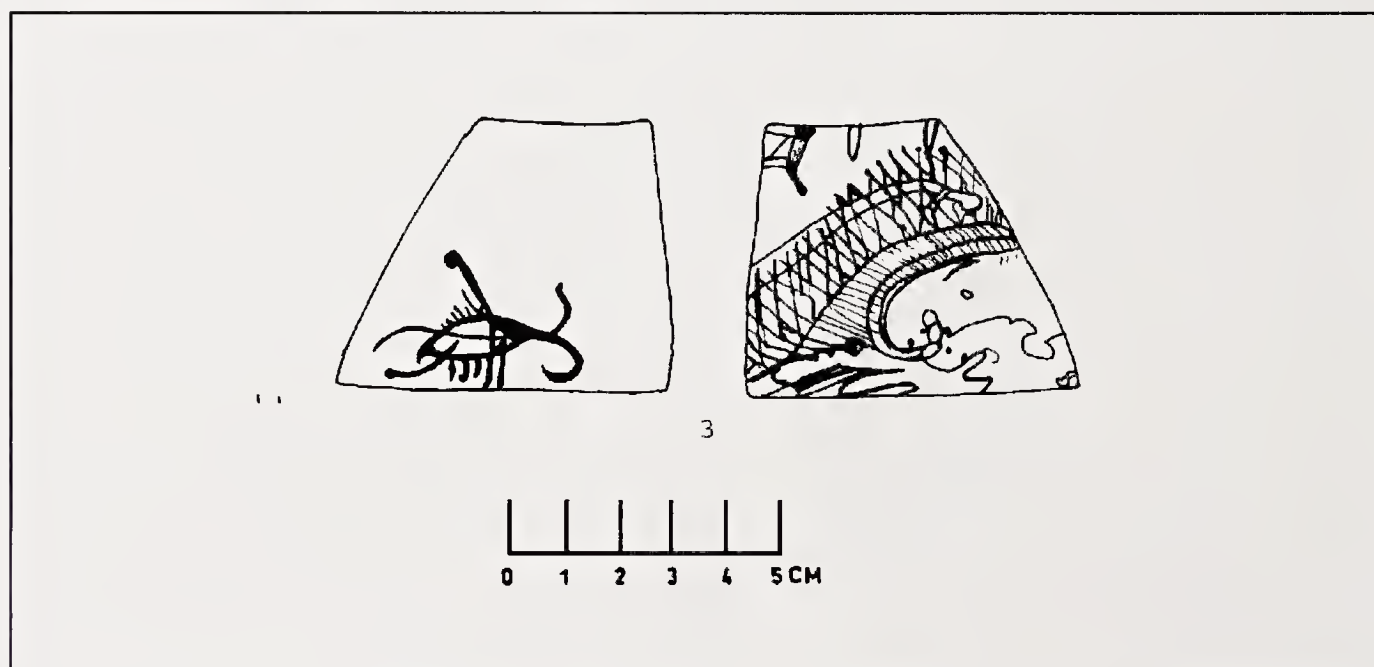


Fig. 24B. Painted design in porcelain ware. *See p. 49*

COINS AND SEALS

Among the antiquities, the numismatic findings from Bekal are very significant. The important findings include:

- 1). Remains of furnace
- 2). Kiln for minting coins
- 3). Copper coin mould
- 4). Copper ingots (700 nos.)
- 5). Lead slag
- 6). Lead mould
- 7). 554 copper small coins
- 8). Damaged and defaced coins
- 9). *Paise* coins of Tippu Sultan
- 10). Puducheri Silver panam
- 11). British East India Coins
- 12). Terracotta Seals with Nagari legend.

Around 700 copper ingots were collected from the site. More than 554 copper coins were found from a single house. Majority of them are in corroded condition, there for the symbols are not visible. Few of them were selected from the collection bear the symbols of elephant to right, elephant turned to left with uplifted tail, double crossed lines with dots, Kanarese numerals, birds, flowers wheel design, goad, deity, square petalled flower etc. the weight standard is ranging between 1gm to 3 gm and the diameter is in between 5 mm to 13 mm.

Obverse of all these coins show an elephant with thinner body, slender legs in different postures. The reverse bears the symbol of double crossed line with dots. Some of the coins bear the Kanarese numerals 2,9,18,19,22, 24 and 31 within beaded circles and crossed double lines on the other side. These coins were cataloged as

“anonymous issues in uncertain mint” (Colin, et, al). Because of the weight standard, diameter and symbols these tiny copper coins one can surmise that the ½ cash coin and one cash coin of Tippu Sultan minted from Bekal fort. Some scholars suggested that the smaller copper coins bearing the higher face value shows that this was the deliberate intention to raise the value of the coin (Henderson, 1987).

Tippu Sultan had very extensive copper coinage of his own, minted from other mints. The standard types are 1 *Paise*, ½ *Paise*, ¼ *Paise*, ⅛ *Paise* with elephant symbol on the obverse and the mint name in Persian legend on the other side. Fifteen such coins were found, similar *Paise* coin of the Tippu Sultan from Bekal. ½ *Paise* and ¼ *Paise* with mint name (Feruk Mint) are other important pieces found.

Symbols of wheel, deity bird, and flower design seen on some tiny coins. Coins are completely corroded. The weight is between 1gm to 1.50 gm and the diameter is 5 mm to 9 mm. It may be the tiny cash coin of Nayakas.

Only two silver coins were found from the site. It is identified as French Puducheri *Panam*. One is counterfeit, identified by T.Satyamurti (Satyamurti; 2000). Another coin is 2.3 gm weight and 13mm diameter bearing the letter ‘P’ for Puducheri. The legend ‘*Fran-kempani*’ in Persian script is seen on the obverse of the coin.

Eleven copper coins found from the surface area. Bale marks with letters V E I C and the year 1731 and 1791 on the one side and picture of the balance seen on the other side of all the



Obverse



Reverse

Pl. XIVA : Cash-coin of Ikkeri Nayakas. See p. 55



Obverse



Reverse

Pl. XIVB : Cash-coins of Tippu Sultan. See p. 55



Obverse



Reverse

Pl. XVA : Cash-coin of Tippu Sultan with Kanarese numerals. See p. 56



Obverse



Reverse

Pl. XVB : Paise coin of Tippu Sultan. See p. 57



Obverse

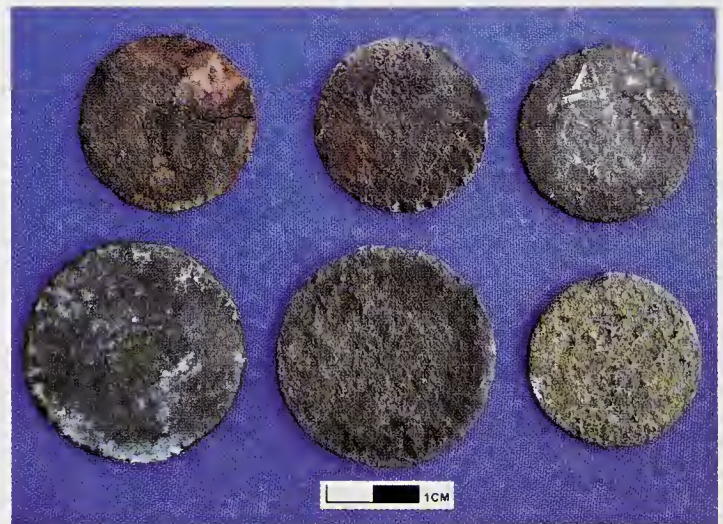


Reverse

Pl. XVIA : *Silver coins (Puducheri panam). See p. 57*



Obverse



Reverse

Pl. XVIB : *Paise issued by British East India Company. See p. 59*

coins. These are the Bombay Presidency British Indian Coins.

Coin Moulds (pl. XXIX-C)

An important discovery from Bekal site is a circular copper and lead coin mould. The figure of an elephant is seen on it. Another piece is square shaped one. A lead mould, square shape, depression on the centre.

Terracotta Seals (pl. XVII)

Five terracotta seals were discovered from the site. Three of them are in Circular shape with 2.20 cm diameter and a curved projection in the backside. They are recovered from sector —II, having three lined legend inscribed in Nagari script, where only one is clearly identified. The legend read as

‘Sri Vira
Krishna Pra
tapa Raya’

While the other two seals recovered from the site, bear the Persian letter (‘Hai’), which is the initial letter of Haider Ali. However, no coin has been found bearing the letter ‘Hai’ from the site.

Tippu Sultan has not recorded his own name on any of his coins. The initial letter of his fathers name Haider Ali in Persian letter is frequently met with the gold and silver issues from other mints. Selected coins are described below.

Cash coins of Ikkeri Nayakas (pl. XIV-A)

1. Material: Copper, weight: 0.67 gm
Diameter: 8 mm, Shape: Round
Obv: Flower design
Rev: Deity standing in square out line
2. Material: Copper, weight: 1.00 gm
Diameter-7 mm, Shape: Round
Obv: Flower design
Rev: Deity standing
3. Material: Copper, weight 0.99 gm
Diameter-7 mm, Shape: Round
Obv: Not clear
Rev: Deity standing

4. Material: Copper, weight: 1.01 gm
Diameter-7 mm, Shape: Round
Obv: Wheel with four spokes
Rev: Deity
5. Material: Copper, weight: 1.19 gm
Diameter-5 mm, Shape: Round
Obv: Flower design
Rev: Not clear
6. Material: Copper, weight: 0.93 gm
Diameter: 8 mm, Shape: Round
Obv: Flower design
Rev: Not clear
7. Material: Copper, weight: 1.20 gm
Diameter: 8 mm, Shape: Round
Obv: Deity look like Narasimha
Rev: Not clear
8. Material: Copper, weight: 1.27gm
Diameter: 8 mm, Shape: Round
Obv: Wheel design
Rev: Not clear
9. Material: Copper, weight: 1.490 gm
Diameter: 8 mm, Shape: Square
Obv: Flower
Rev: Not clear

Cash coins of Tippu Sultan (pl. XIV-B)

1. Material: Copper, weight: 1.170 gm
Diameter: 10 mm, Shape: Round
Obv: Elephant to left
Rev: Flower design
2. Material: Copper, weight: 1.370 gm
Diameter: 10 mm, Shape: Round
Obv: Elephant to left
Rev: Goad
3. Material: Copper, weight: 1.520 gm
Diameter: 10 mm, Shape: Round
Obv: Elephant to left
Rev: Flower design
4. Material: Copper, weight: 1.170gm
Diameter: 10 mm, Shape: Round
Obv: Elephant to left
Rev: Unidentified

5. Material: Copper, weight: 1.10 gm
Diameter: 10 mm, Shape: Round
Obv: Elephant to Right
Rev: Flower design
6. Material: Copper, weight: 1.00 gm
Diameter: 8 mm, Shape: Round
Obv: Elephant to Right
Rev: Flower design
7. Material: Copper, weight: 1.05 gm
Diameter: 10 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines
8. Material: Copper, weight: 2.780 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
9. Material: Copper, weight: 2.60 gm
Diameter: 13 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
10. Material: Copper, weight: 2.65 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
11. Material: Copper, weight: 1.26 gm
Diameter: 9 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
12. Material: Copper, weight: 2.44 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
13. Material: Copper, weight: 2.61 gm
Diameter: 14 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
14. Material: Copper, weight: 2.53 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double crossed lines with dots
15. Material: Copper, weight: 2.99 gm
Diameter: 11 mm, Shape: Round

- Obv: Elephant to Right
Rev: Double-crossed lines with dots
16. Material: Copper, weight: 2.31 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
17. Material: Copper, weight: 2.32 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
18. Material: Copper, weight: 2.54 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
19. Material: Copper, weight: 2.22 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
20. Material: Copper, weight: 2.91 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
21. Material: Copper, weight: 3.04 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
22. Material: Copper, weight: 2.68 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots
23. Material: Copper, weight: 2.59 gm
Diameter: 11 mm, Shape: Round
Obv: Elephant to Right
Rev: Double-crossed lines with dots

Cash coins of Tippu Sultan with Kanarese Numerals (pl. XV-A)

1. Material: Copper, weight: 2.69 gm
Diameter: 11 mm, Shape: Round
Obv: Kanarese numeral '31' with in Beaded circle
Rev: Double-crossed lines with dots

2. Material: Copper, weight : 0.99 gm
Diameter: 8 mm, Shape : Round
Obv: Kanarese numeral '2' with in Beaded circle
Rev: Double-crossed lines with dots
3. Material: Copper, weight : 0.92 gm
Diameter: 11 mm, Shape: Round
Obv: Kanarese numeral '2' with in Beaded circle
Rev: Double-crossed lines with dots
4. Material: Copper, weight: 1.97 gm
Diameter: 13 mm, Shape: Round
Obv: Kanarese numeral '24' with in Beaded circle
Rev: Double-crossed lines with dots
5. Material: Copper, weight: 2.15 gm
Diameter: 13 mm, Shape: Round
Obv: Kanarese numeral '18' with in Beaded circle
Rev: Double-crossed lines with dots
6. Material: Copper, weight: 2.10 gm
Diameter: 13 mm, Shape: Round
Obv: Kanarese numeral '19' with in Beaded circle
Rev: Double-crossed lines with dots
7. Material: Copper, weight: 2.20 gm
Diameter: 13 mm Shape: Round
Obv: Kanarese numeral '22' with in Beaded circle
Rev: Double-crossed lines with dots
8. Material: Copper, weight: 2.00 gm
Diameter: 13 mm, Shape: Round
Obv: Corroded
Rev: Double-crossed lines with dots

Paise coins of Tippu Sultan (pl. XV-B)

1. Material: Copper, weight: 2.82 gm
Diameter: 13 mm, Shape: Round
Obv: Elephant to right with uplifted tail
Rev: Corroded

2. Material: Copper, weight: 2.61 gm
Diameter: 13 mm, Shape: Round
Obv: Elephant to right with uplifted tail
Rev: Persian legend
3. Material: Copper, weight: 2.47 gm
Diameter: 13 mm, Shape: Round
Obv: Elephant to right with uplifted tail
Rev: Persian legend
4. Material: Copper, weight: 2.41 gm
Diameter: 14 mm, Shape: Round
Obv: Elephant to right with uplifted tail
Rev: Persian legend
5. Material: Copper, weight: 2.50 gm
Diameter: 14 mm, Shape: Round
Obv: Elephant to right with uplifted tail
Rev: Persian legend
6. Material: Copper, weight: 7.51 gm
Diameter: 13 mm, Shape: Round
Obv: Elephant to left with uplifted tail
Rev: Persian legend Feruki Mint
7. Material: Copper, weight: 8.65 gm
Diameter: 15 mm, Shape: Round
Obv: Not clear
Rev: Not clear
8. Material: Copper, weight: 7.81 gm
Diameter: 15 mm, Shape: Round
Obv: Not clear
Rev: Not clear
9. Material: Copper, weight: 10.08 gm
Diameter: 25 mm, Shape: Round
Obv: Elephant to left with uplifted tail
Rev: Persian legend Feruki Mint

Silver coins (pl. XVI-A)

1. Material: Silver, weight: 1.92 gm
Diameter: 14 mm, Shape: Round
Obv: Letter 'P' with persian legend
Rev: Persian legend Feruki Mint
2. Material: Copper, weight: 1.28 gm
Diameter: 13 mm, Shape: Round
Obv: Letter 'P' with Persian legend
Rev: Persian legend



Pl. XVII : *Terracotta seals. See p. 55*

***Paise coins of British East India Company
(pl. XVI-B)***

1. Material: Copper, weight: 2.18 gm
Diameter: 19 mm, Shape: Round
Obv: Bale mark
Rev: Symbol of Balance with mint name
2. Material: Copper, weight: 2.79 gm
Diameter: 20 mm, Shape: Round
Obv: Bale mark
Rev: Symbol of Balance with mint name and year 1731
3. Material: Copper, weight: 2.57gm
Diameter: 20 mm, Shape: Round
Obv: Bale mark
Rev: Symbol of Balance with mint name and year 1731
4. Material: Copper, weight: 5.01
Diameter: 25 mm, Shape: Round
Obv: Bale mark
Rev: Symbol of Balance with mint name and year 1791
5. Material: Copper, weight: 6.05 gm
Diameter: 25 mm, Shape: Round
Obv: Bale mark
Rev: Symbol of Balance with mint name and year 1791
6. Material: Copper, weight: 5.00 gm
Diameter: 20 mm, Shape: Round
Obv: Bale mark
Rev: Symbol of Balance with mint name and year 1791

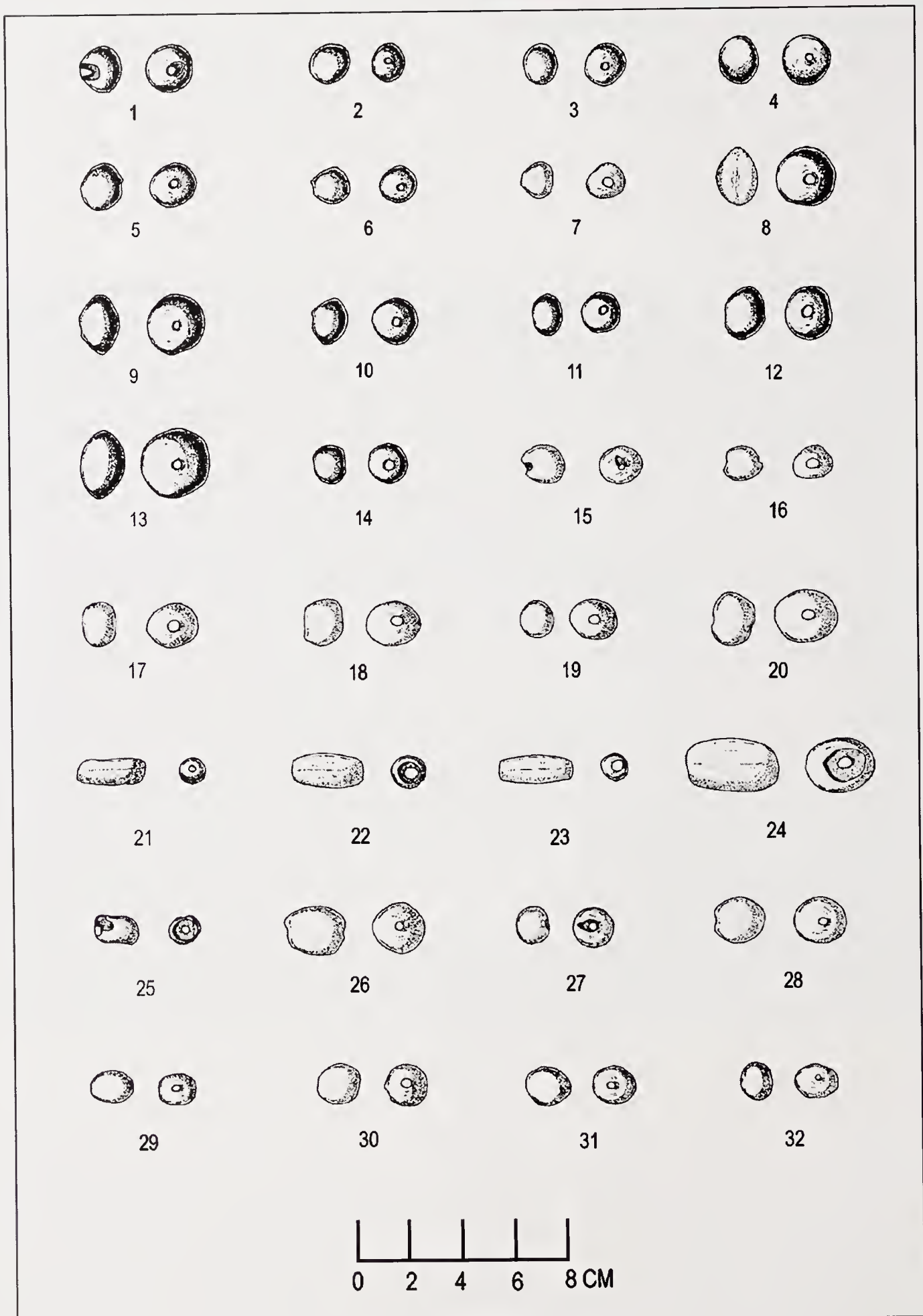


Fig. 25. Terracotta beads. *See p. 65*

ANTIQUITIES

The excavation at Bekal yielded several antiquities such as terracotta objects, stone glass, metal and some miscellaneous objects. The metal objects include gold, copper, silver, iron and lead.

Terracotta objects:

More than one hundred and fifty terracotta antiquities were unearthed from the site. The note worthy findings are beads, hopscotches, toy cartwheels, sling ball, spouts, lamps and some miscellaneous objects.

Beads

About ninety beads of different size and shape were recovered from the site in which forty-eight comes from sector-I, twenty from sector-II, twelve from sector-III and rest of them from surface collection.

The noteworthy shapes include spherical, globular, tubular, barrel, cylindrical etc.

Most of the beads were made out of wheel and mould and a very few are hand made. Some of the beads show irregularity in surface shows that they are made out of hand. The fabric and colour of the beads varies from fine to medium depending on their varying oxidizing conditions and ingredients used. The grey colour of the beads denotes their reduced firing condition.

Lamps

Lamps of significant size and shape were found, where sector-I yielded thirty-five, sector-II has fourteen and III with eleven. Most of them are intact and a very few are fragmentary. Almost all lamps have soot

marks in and around the rim, while some with traces only.

They are made out of well-levigated clay and have a fine to medium fabric. They have a featureless rim and a discular flat base.

A fragmentary pinched out lip of a lamp having thick soot marks denotes its regular usage. It has some incised designs on the side of the rim.

The internal diameter at top and interior depth of sector. I range from 4.2 cm to 6.5 cm and 4 cm to 1.8 cm, while II has 5 to 6.5 cm; 1 cm to 1.6 cm and III has 4.5 cm to 5.1 cm; 7 to 1.5 cm. Some of the pottery is having red colour slip also.

Spouts

A thirty-one fragmentary spouts of hukka were recovered from the site, where thirteen from sector-I, eight from sector-II and six from sector-III. Almost all of the specimens were wheel made. Incised lines, concentric groove designs can be seen on them.

The fabric is from fine to medium. Most of the specimens are well-fired.

Hopscotch

Hopscotches of different diameter and thickness are found from excavation. The circular shaped play object is available in two varieties like hopscotch made out of moulded clay and from pottery fragment. All of them are of medium fabric and are well-fired. The thickness varies from 0.9 cm to 1.8 cm and diameter ranges from 0.2 cm to 5 cm.

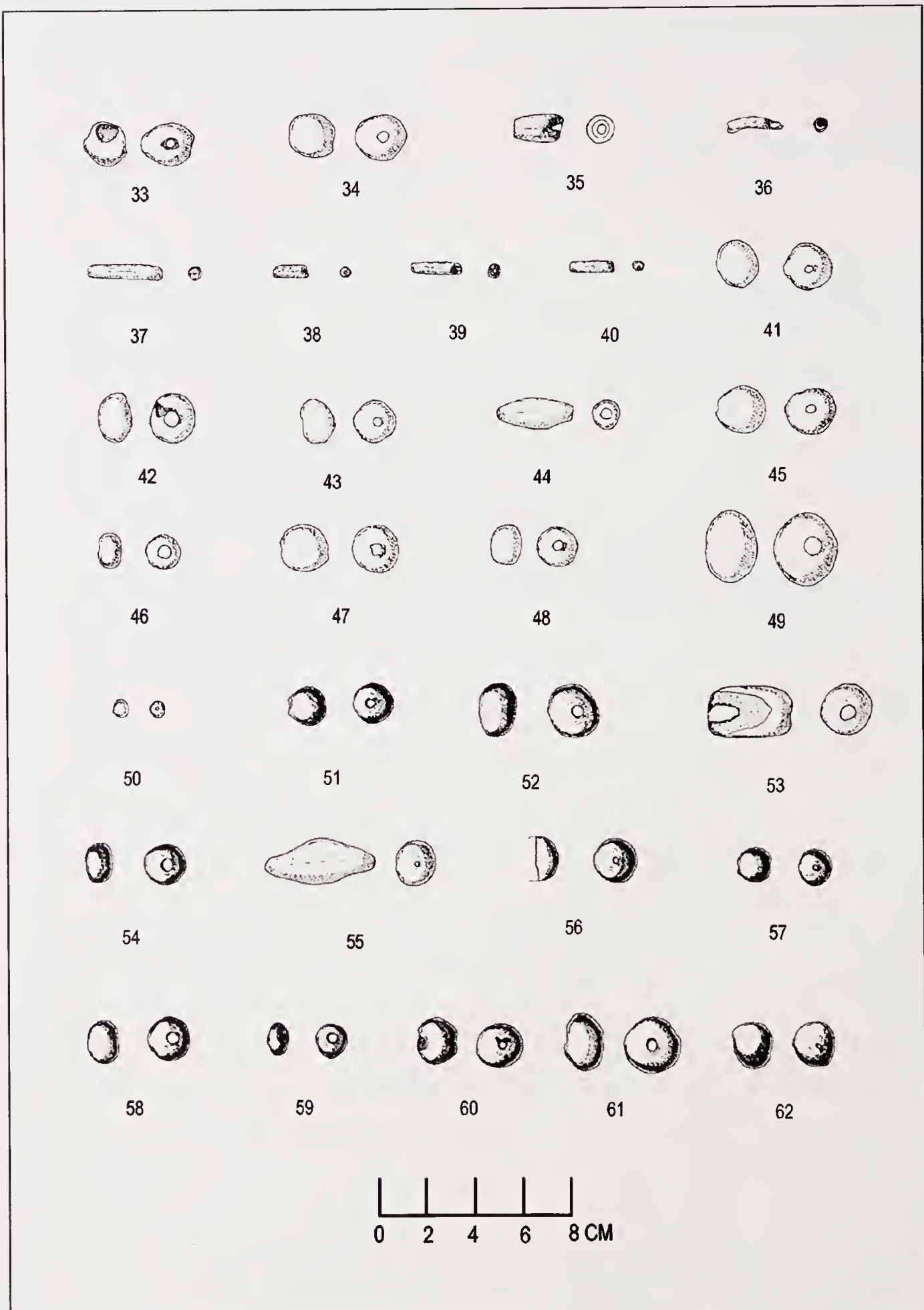


Fig. 26. Terracotta beads. See p. 65

Toy wheel fragments

Seven toy wheels have been identified from the site of varying thickness and diameter. Among them solitary piece have a prominent hub. Most of them are of fine fabric and well-fired. The thickness ranges from 0.3 to 1.8 cm and diameter ranges from 1.5 cm to 4.1 cm. A thin-sectioned toy wheel is quite interesting with its cream slip.

Sling ball

Only a single terracotta sling ball has been found during the excavation from BKL-I. It is of fine fabric and well-fired. Diameter is 1.5cm.

Tiles

A few roof and floor tiles were recovered from site. They are of different sizes and thickness. Most of them are intact.

Stone objects

The stone objects recovered include beads of precious and semiprecious variety, balls, mullers and pestles. Around ten stone beads were found are mainly of the quartz variety. Stone balls of varying thickness, dice also recovered.

Glass objects

It consists of some etched beads of globular and tubular types, blue coloured fragmentary glassware, glass bangles etc.

Metal objects

Metal objects from Bekal include gold, silver, iron, copper, bronze and lead.

Gold objects

Gold objects belonging to the period of Tippu Sultan are noteworthy. A gold foil having an engraved human figure has been recovered from the site.

Silver objects

Around twenty-five silver objects have been unearthed from Bekal. The objects were in the

form of rings, talisman, pendent, toothpick, stylus etc. Silver specimens were found in all three sectors.

Copper objects

More than hundred copper antiquities have been unearthed from Bekal. They are recovered from all the three sectors. Many of them are fragmentary indeterminate objects. The objects identified were nails, bangles, buttons, fish-hooks, rings, talismans, ear studs and unidentified copper objects.

Most of the copper nails have a square topped flat head and a tapering end. The length varies from 1.2 cm to 4.2 cm.

Around fifteen copper rings were recovered from the site. Almost all of them have a round section.

Bangles and Bracelets

Different types of fragmentary bangles have been found with designs. A solitary bracelet having a knot at one end is also found.

Toothpicks and Ear cleaner

Some of the specimens found are attached with a copper chain. The ear cleaners are long rod like having a long flattened curved edge and is circular sectioned, while the toothpicks are rectangular sectioned.

Rattles

The rattles that have been found from the site have a loop on one end. Some of them have wide opened tips and some are bud shaped with partly opened tips.

Talisman

Another noteworthy copper finding from the site is the talisman, of varying size and shape. Some are square box like having an opening in the sides and are filled with folded copper plates.

A tubular shaped talisman with a knob on top, having a wider and a narrower end. An incised marking can be seen in roman letters-XII.



Pl. XVIIIA : *Terracotta beads. See p. 65*



Pl. XVIIIIB : *Terracotta beads. See p. 65*

Instead of all these, a good number of folded copper plates have been found, probably placed inside the talisman.

Brooches and Hooks

Several brooches and hooks of oblong and round sections were found. They are with loops on both ends.

Fish-hooks were also found from the site

Bronze objects

The excavation yielded a very less number of objects from the site. They include a miniature standing human figure rectangular dice and rings.

Lead

It includes small size canon balls, mould, and other indeterminate objects.

Miscellaneous objects

Several miscellaneous objects were excavated from the site. They are mainly toys, amulets made of terracotta, objects made of copper, lead, bronze, silver, stone and glass. Selected antiquities are described below: -

Terracotta Beads (pl. XVIII-A,B, fig.25, 26)

1. Short, broken irregular spherical bead, BKL-484
2. Short, spherical bead, grayish black colour, coarse grained, ill-fired. BKL -649
3. Short, bicone, circular bead buff coloured, coarse grained, ill-fired. BKL -287
4. Short, irregular barrel shaped, circular bead, dull red, fine grained, ill-fired BKL-276
5. Irregular circular bead with perforations of different width, dull red, medium grained and ill-fired. BKL-265
6. Short, bicone, truncated circular bead, dull red, medium grained, ill-fired. BKL- 464
7. Short, bicone, truncated, circular bead, grey, fine grained. BKL-67
8. Standard bicone circular bead, red fine grained, well-baked. BKL-638
9. Standard, bicone, circular bead, buff colour, medium grained, ill-fired. BKL-547
10. Short, circular bead, dull red, medium grained, ill-fired. BKL-150
11. Short, standard, circular bead, dull red colour, fine grained, ill-fired. BKL-536
12. Short, barrel shaped, circular bead, brownish red, fine grained, ill-fired. BKL-653
13. Short, bicone, truncated, circular bead, grayish core, medium grained, ill-fired. BKL- 33
14. Short, barrel shaped, circular bead, grayish core, fine grained, ill-fired. BKL-337
15. Short, uneven globular bead, blackish core, fine grained, ill-fired. BKL-1090
16. A variant of above one BKL-807
17. Short, barrel shaped, truncated, circular bead of dull red, medium grained, ill-fired. BKL-402
18. Short, irregular barrel shaped, grayish black core, fine grained, ill-fired. BKL-842
19. Short, spherical, circular bead, grey colour fine grained, ill-fired. BKL-8
20. Short, irregular, barrel shaped, dull red, medium grained, ill-fired. BKL-219
21. Long, cylindrical, circular bead, dull red, medium grained, ill-fired. BKL-237
22. Long, barrel shaped, circular bead, dull red, medium grained, ill-fired. BKL-244
23. Long, cylindrical, circular bead, dull red, fine grained, ill-fired. BKL-5
24. Long barrel circular bead, dull red, medium grained, ill-fired. BKL-95
25. Short, irregular, truncated barrel shaped, dull red, fine grained, ill-fired. BKL-104
26. Short, irregular barrel shaped, red, fine grained, well-fired BKL-262
27. Short, barrel shaped, circular bead, reddish black, fine grained, ill-fired. BKL-423
28. Short, barrel shaped, circular bead, medium grained, ill-fired, BKL-140
29. Short, spherical bead, dull red, fine grained, ill-fired, BKL-132

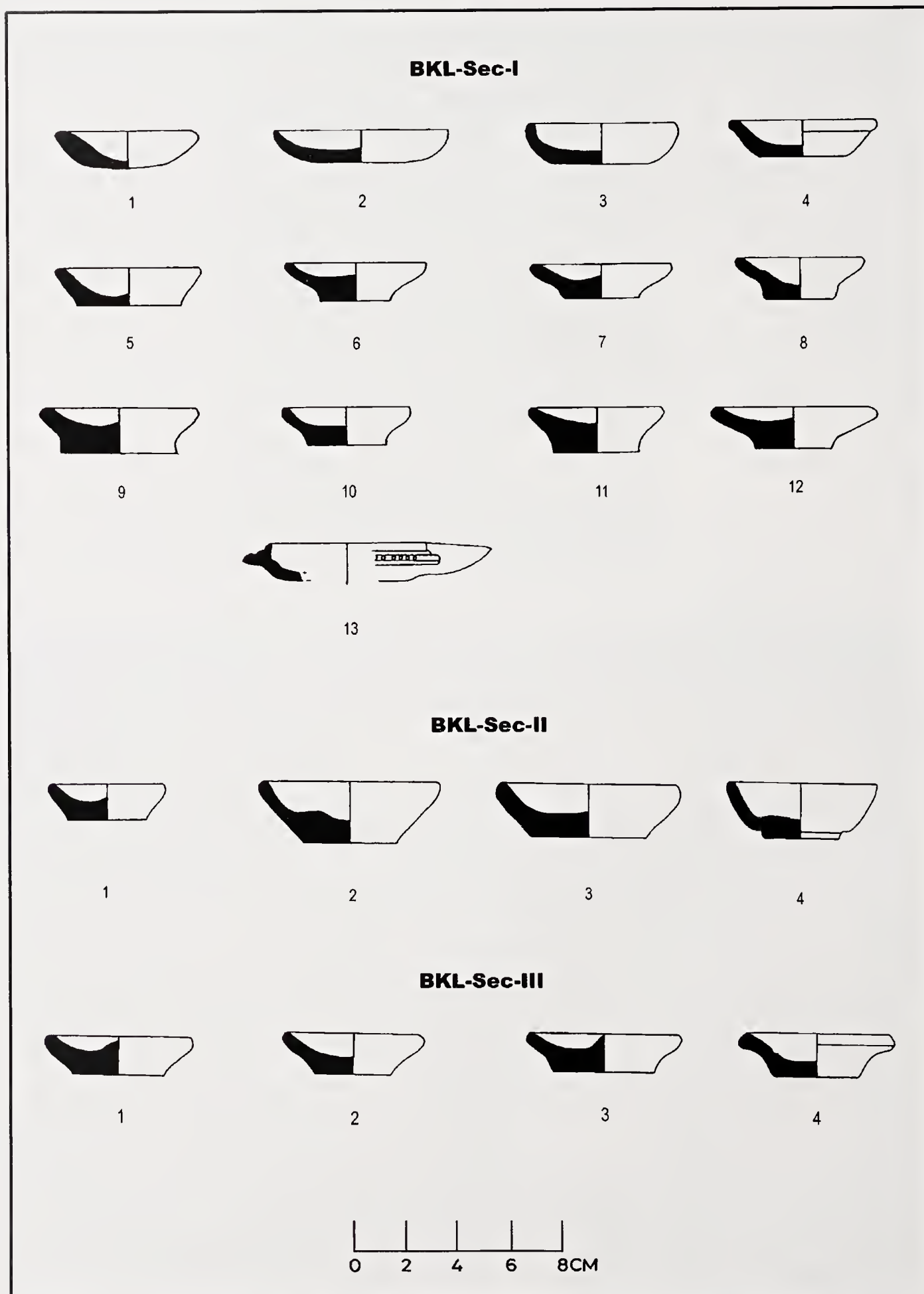


Fig. 27. Terracotta lamps. *See pp. 67,69,71*

30. Short, barrel shaped, circular bead, dull red medium grained, ill-fired. BKL-156
31. Short, irregular, elliptical bead dull red, medium grained, ill-fired. BKL-606
32. Short, irregular spherical, circular bead, brownish black, medium grained, ill-fired. BKL-210
33. Short, broken, roughly vase shaped, circular bead, black colour, medium grained, ill-fired. BKL-243
34. Short, standard barrel shaped, circular bead, grayish black, medium grained, ill-fired. BKL-98
35. Short, irregular cylinder, truncated circular bead, dull red, fine fabric, well-fired. BKL-11
36. Short, spiral, tubular bead, red core with an orange red slip, well-fired. BKL-114
37. Long, tubular, circular bead, creamish colour, fine fabric, ill-fired. BKL-291
38. Short, tubular, circular bead, red colour having white slip, fine grained, well-fired. BKL-310
39. Short, cylindrical, circular bead, creamish colour, fine fabric, ill-fired. BKL-387
40. Short, tubular bead of buff colour, medium grained, ill-fired. BKL-289
41. Short, irregular, spherical bead, grey colour, medium grained, ill-fired. BKL-115
42. Short, irregular, barrel shaped, circular bead, dull red, wide perforation medium fabric, ill-fired. BKL-346
43. Short, irregular spherical, circular bead, red colour, fine fabric, well-baked. BKL-376
44. Long, barrel shaped, circular bead, grey colour, medium fabric, ill-fired. BKL-501
45. Short, standard globular, circular bead, dull red, medium fabric, ill-fired. BKL-508
46. Short, barrel shaped, circular bead, grey colour, medium fabric, ill-fired. BKL-520
47. Short, irregular barrel shaped, dull red, medium grained, ill-fired. BKL-48
48. Short, barrel shaped, dull red, medium grained, ill-fired. BKL-83
49. Short, irregular barrel shaped, circular bead of dull red colour, fine grained, well-baked. BKL-740
50. Extremely short, barrel shaped, circular bead, reddish core, fine fabric, well-fired. BKL-403
51. Short, spherical bead of dull red colour, fine grained, well-baked. BKL-660
52. Short, barrel shaped, circular bead of dull red colour, fine-grained, ill-fired. BKL-391
53. Long, barrel shaped, circular bead of dull red colour, broken at sides, medium grained, well-fired. BKL-458
54. Short, barrel circular bead, dull red colour, medium fabric, ill-baked. BKL-432
55. Long, barrel shaped, truncated, circular bead of dull red colour, black patches on the body, medium grained, ill-fired. BKL-478
56. Short, globular bead, broken, black colour, medium grained, ill-fired. BKL-142
57. Short, bicone, circular bead, brownish red colour, medium fired, ill-fired. BKL-434
58. Short, barrel shaped, circular bead, gray colour, fine grained, ill-fired. BKL-93
59. Short, spherical bead, broken at one side, red colour, fine grained, well-fired. BKL-32
60. Short, spherical, circular bead, red colour, fine grained, well-fired. BKL-669
61. Short, irregular barrel shaped, circular bead, cream colour, ill-fired. BKL-692
62. Short, irregular spherical, circular bead, dull red colour, ill-fired. BKL-673

Lamps (pl. XIX-A, fig.27)

BKL- I

1. Lamp of Grey ware with soot mark on the rim, and discular, uneven base with thickened featureless rim. Medium fabric, medium fired. Internal diameter at top- 4.3cm. Interior depth- 1.3 cm.
2. Lamp of dull Red ware with soot marks on different points along the rim. Discular flat



Pl. XIXA : *Terracotta lamps*. See p. 67



Pl. XIXB : *Terracotta spouts*. See p. 71

- base with upward tapering sides, featureless rim, wheel turned, Medium fabric, well-fired. Internal diameter at top- 6.3 cm, Interior depth-1.0 cm.
3. Lamp of dull Red ware with soot marks on different points of the rim. Wheel made flat base with sharp featureless rim. Well-fired, fine fabric. Internal diameter at top- 6.5 cm, Interior depth-1 cm.
 4. Lamp of dull red ware with soot marks on thin mildly rounded rim. An uneven flat base, having black patches on the body. Striation marks on the exterior and interior as well. Medium grained, ill-fired. Internal diameter at top- 4.7 cm, Internal depth -1.4 cm.
 5. Lamp of dull red ware with a sharp featureless rim, deeper one having a small knob like projection in the centre. Slow wheel turned, discular but uneven flat base. Striation marks seen on the exterior surface. Medium grained, medium fired. Internal diameter at top -5 cm, Interior depth -1.5 cm.
 6. Lamp of buff colour, wheel made, discular uneven base, thin mildly rounded rim. Coarse grained, medium fabric, ill-fired. Internal diameter at top is 4.90 cm, Internal depth-0.4 cm. BKL-640
 7. Lamp of dull red colour with traces of soot marks on the featureless rim. Shallow, wheel turned, made of coarse-grained clay. Internal diameter at top -4.7 cm, Internal depth -0.5 cm.
 8. Lamp of dull red colour with traces of soot marks on the featureless rim. Hand made having an uneven body and discular base. Coarse-grained fabric, ill-fired. Internal diameter at top-4.2 cm, Internal depth is 1.1 cm. BKL-122
 9. Lamp of dull red ware having soot marks on an opaquely cut rim. Shallow one having a flat discular base. Blackish core, medium grained, ill-fired. Internal diameter at top-5 cm, Internal depth -1.8 cm.
 10. Lamp of dull red ware with black slip in and around the rim. It has a sharp round rim and a discular flat base. Brownish core, made out of fine clay, ill-fired. Internal diameter at top- 4.4 cm, Internal depth-0.9 cm. BKL-644
 11. Lamp of brownish coloured ware having a red slip on it. The featureless rim with soot marks, fragmentary, discular flat base. Medium fabric, ill-fired. Internal diameter at top -4 cm, Internal depth-1.6 cm. BKL-365
 12. Lamp of buff colour with soot marks on the, featureless rim. Shallow one with a tapering sides and a discular base. Slow wheel turned, medium grained, ill-fired. Internal diameter at top is 5.3 cm, Internal depth-1.5 cm BKL-171B
 13. A long pinched lip of a fragmentary lamp, black colour, fine fabric, and ill-fired. An incised vertical line designs on the side of the lip. Internal Diameter at top-2 cm. BKL- 234

BKL- II (fig. 27)

1. Lamp of dull red ware with soot marks on the featureless rim. Shallow, having a discular flat base, medium grained, ill-fired. Internal diameter at top 4.1 cm, Interior depth-1.6 cm. BKL-697
2. Lamp of dull red ware, broken, with mildly rounded rim, uneven flat base. A small projection in the centre. Wheel turned, Medium fabric, well-fired. Internal diameter at top-6.1 cm, Internal depth-1.6 cm. BKL-397
3. Lamp of dull red ware, wheel made with a thickened featureless rim, an uneven discular base. Medium grained, ill-fired. Internal diameter at top -6.2 cm, Internal depth- 1.2 cm. BKL-441
4. Lamp of dull red ware with faint traces of soot marks on sides of mildly rounded rim, discular base. Wheel turned, with striation marks. Coarse-grained fabric, ill-fired.

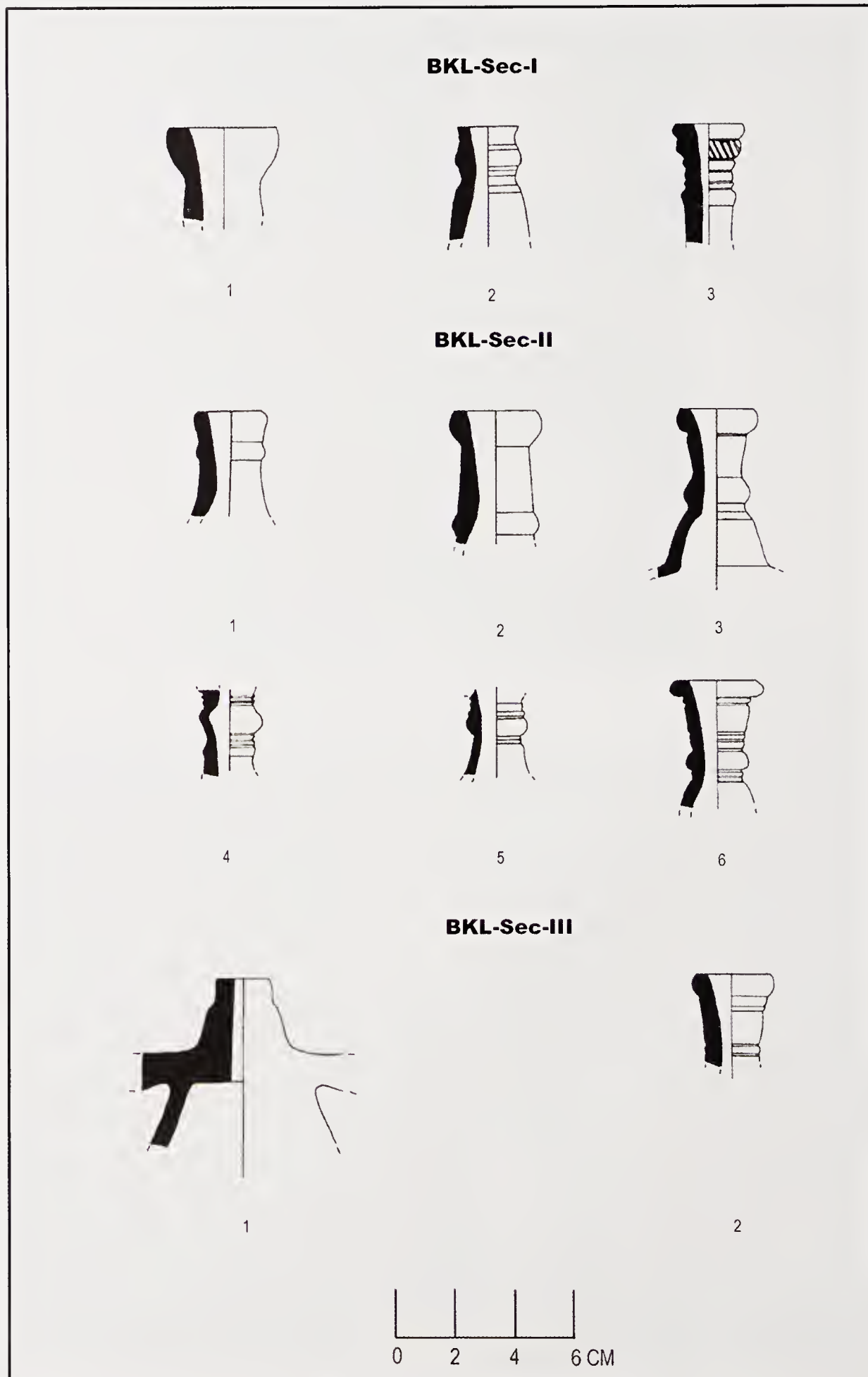


Fig. 28. Terracotta spouts. *See p. 71*

Internal diameter at top-5cm, depth-1cm.
BKL- 601

BKL- III (fig. 27)

1. Lamp of dull red ware with soot marks, wheel turned, shallow rounded rim, indefinite flat base. Black patches in the interior and exterior showing open firing. Made of coarse-grained fabric having a light brownish core .A short knob like projection in the centre. Internal diameter at top-5 cm, Internal depth - 0.9 cm. BKL-5
2. Lamp of grey colour with soot marks on the different points of rim. Shallow, having a discular flat base with a tapering featureless rim. Coarse-grained fabric, ill-fired. Internal diameter at top-4.5 cm, Internal depth -1.3 cm. BKL-878
3. Lamp of dull red colour with soot marks on the rim. Broken, shallow, a knob like projection in the centre, uneven flat base. Striation marks in the interior. Medium grained, ill-fired. Internal diameter at top-5.1 cm and Internal depth-1.5 cm. BKL-205
4. Fragmentary lamp of dull red ware, an obliquely cut rim, discular flat base, medium grained, ill-fired. Internal diameter at top-5.1 cm, Internal depth - 0.7 cm. BKL-142

Spouts (pl. XIX-B fig.28)

BKL-I

1. Spout, of red colour with a thick collared mouth. The broken neck is having a slight collar part having incised vertical lines. Made out of medium grained clay, ill-fired. BKL - 291
2. Spout, Black colour with a bulging profile, a broken mouth and a collared neck having slightly marked concentric grooves. Medium grained, ill-fired. BKL - 122
3. Spout, having a double collared wide mouth, one is plain and other is with incised vertical lines. The plain neck outwardly has concentric

grooves designs. Black colour made out of medium fabric, ill-fired. BKL-798

BKL-II

1. Plain tubular spout of hukka (?), red ware, featureless wide mouth, an irregular collared neck. Medium fabric, ill-baked. BKL-870
2. A fragmentary spout of grey colour, having a thick featureless mouth with an elongated profile and a collar below. Fine grained, ill-baked.
3. Fragmentary spout of grayish colour with a collared mouth having concentric lines and a plain neck. Fine fabric, ill-fired.
4. An indeterminate fragmentary spout of black colour, with a broken mouth, collared neck portion having incised lines and a wide perforation. Medium fabric, ill-fired.
5. Fragmentary spout of black colour with wide broken mouth, collared neck with concentric grooves and an elongated body, fine fabric, ill-baked. BKL-439
6. Fragmentary spout of dull red ware, with a collared mouth and neck having concentric lines. Medium fabric, ill-fired. BKL-392

BKL-III

1. A fragmentary spout of dull red ware, a collared neck, an elongated profile having incised concentric grooves. Blackish core, medium grained, ill-fired. BKL 303
2. A large fragmentary spout of dull red colour having a small mouth and a bulging profile. Medium grained, well-fired core. BKL-94

Terracotta toy cartwheel (pl. XX-A fig.29)

1. Terracotta wheel, small, convex, fine fabric, well-fired. Diameter 1.5 cm, Thickness 0.3 cm.
2. Terracotta wheel, convex, red colour, fine fabric, well-fired. Diameter-2.6 cm, Thickness-1.1 cm. BKL-211
3. Terracotta wheel, thin, fragmentary, Plano-convex, buff colour, fine fabric, ill-fired.

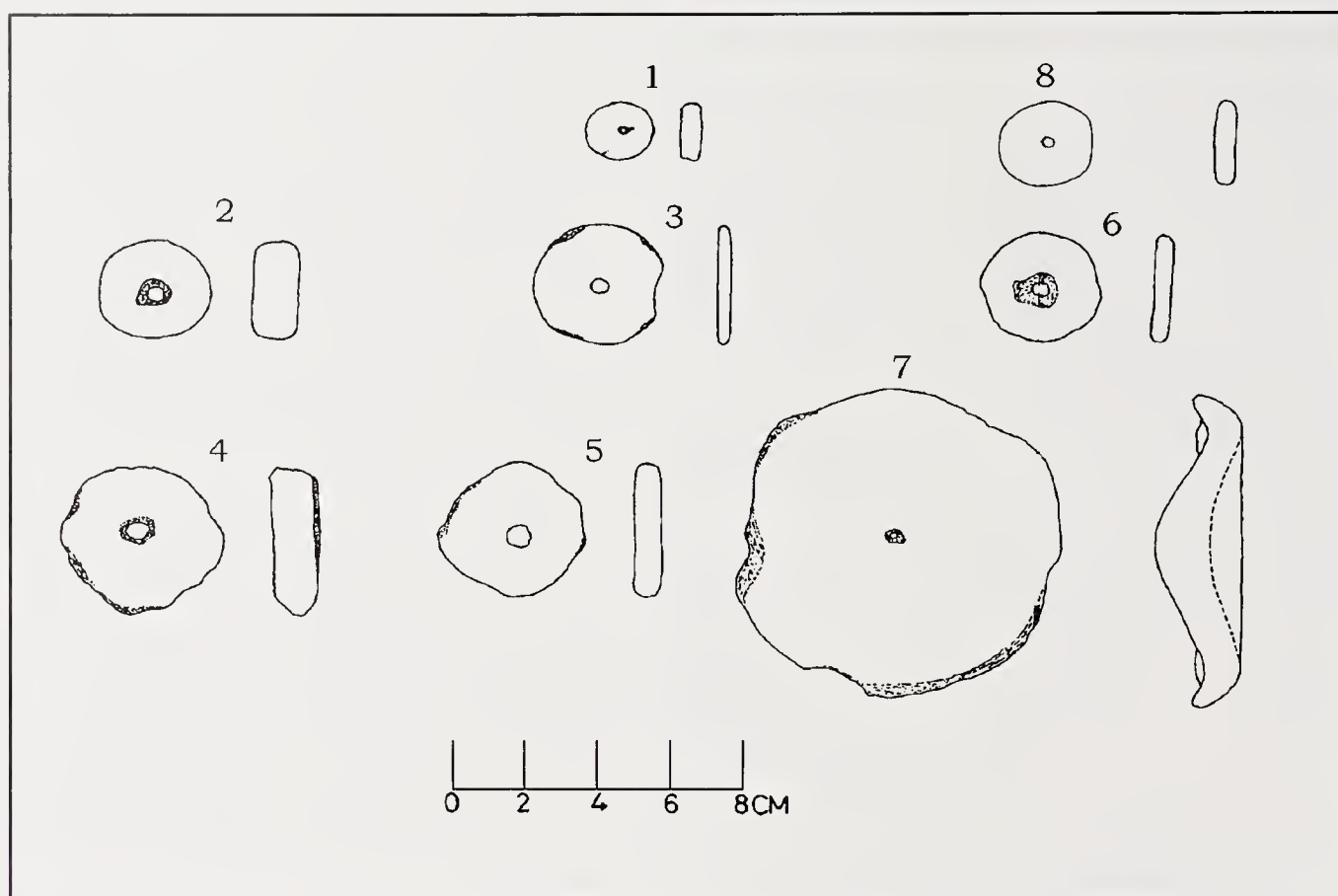


Fig. 29 Terracotta wheel. *See p.71*

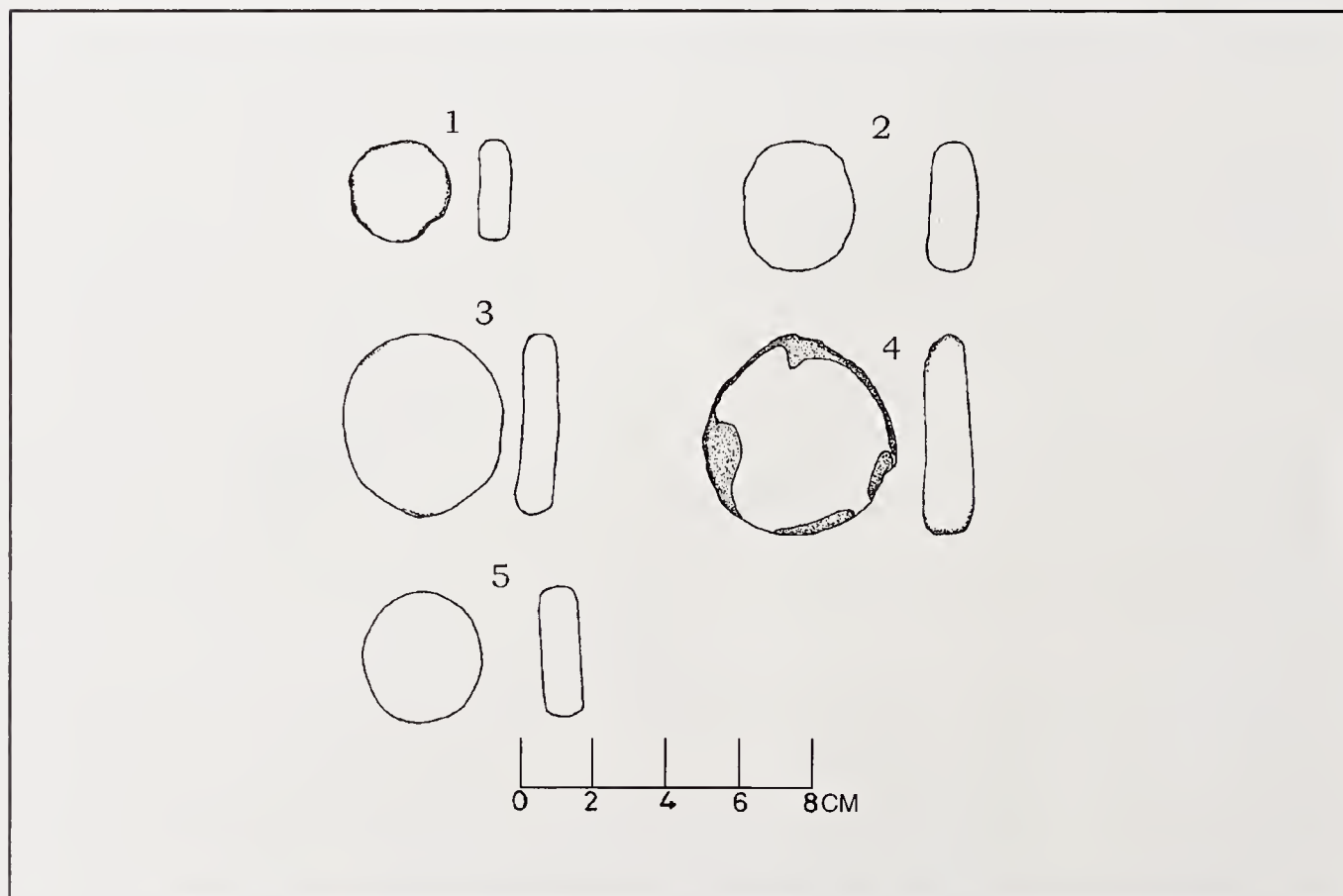


Fig. 30. Terracotta hopscotch. *See p. 75*



Pl. XXA : Terracotta wheel. See p. 71



Pl. XXB : Terracotta hopscotch. See p. 75



Pl. XXIA : *Terracotta tiles. See p. 75*



Pl. XXIB : *Terracotta miscellaneous objects. See p. 75*

Diameter-3.5 cm, Thickness-1.1 cm. BKL-656

4. Terracotta wheel, Plano convex, red colour, having a cream slip, fine fabric, well-fired. Diameter-3 cm, Thickness-0.4 cm.
5. Terracotta wheel, irregular convex, red colour, medium fabric, well-fired. Diameter-3.8 cm and Thickness-1.8 cm. BKL-234
6. Terracotta wheel, irregular, convex, red colour, medium fabric, well-fired. Diameter-4.1 and Thickness-1cm. BKL-406
7. Terracotta wheel, buff colour, circular with an upward curve. A prominent hub can be seen. Diameter-4.1 cm and Thickness-1 cm.
8. Terracotta, toy cart wheel, small, Plano convex section. Diameter-2.5 cm, Thickness-0.5 cm. BKL-1031

Terracotta Hopscotch (pl. XX-B fig.30)

1. Pottery, hopscotch, circular, red colour. Medium fabric well-fired. Diameter-2.4 cm and Thickness-1.8 cm. BKL-76
2. Hopscotch, thin, broken, grey colour having a black slip on one side. Medium fabric, ill-fired Diameter-0.2 cm and Thickness-4.6 cm. BKL-249
3. Pottery, hopscotch, circular, red colour. Medium fabric well-fired. Diameter-3 cm and Thickness-1 cm. BKL-378
4. Pottery, hopscotch, circular, red colour, medium fabric, well-fired. Diameter-2.8cm and Thickness-0.9 cm. BKL-629
5. Pottery, hopscotch, circular, red colour. Medium fabric well-fired. Diameter-4.5 cm and Thickness-0.9 cm. BKL-396
6. Pottery, hopscotch, red colour, medium fabric, ill-fired. Diameter-5 cm and Thickness-0.9 cm.

Terracotta Tiles (pl.XXI-A)

1. A rectangular tile with curved edges. Bracken with one edge having a V-shaped cut. Length -14 cm, Width-6 cm, Thickness-1 cm.

2. An intact roof tile of red colour, with a thickness of 23.2 cm, Width -11 cm, Thickness-1.2 cm.
3. An intact tile of red colour, with thickness-28.2 cm, Width-12 cm, Thickness-1.5 cm.

Miscellaneous Terracotta Objects (pl.XXI-B fig.31)

1. Toy fish (?), Terracotta, Broken at the top portion. It is having a wider body part and tail fin like projections at the proximal end. One of the projections has a perforation. Measurement - Length 3.7 cm, Width 2 cm at the middle portion. BKL-660
2. Net sinker (?), Terracotta, Cylindrical one with a short rounded distal end, a constricted neck and a bulged body. It is made out of fine clay and is well-fired. Length-3.2 cm, Width-1.4 cm.
3. Amulet (?), Rectangular, ill-fired, have two small perforations. One end of the object is has width of 1.2 cm and other with 0.5 cm. BKL-269
4. Vase or a games man, Terracotta object, black colour made of fine-grained clay and is ill-fired. It has a hollow body with constrictions in between. Decorative like lines, diamond designs can be seen on the body. Height is 3.4 cm, Width at the base is 3 cm. BKL-1258
5. Toy animal figurine (?). Terracotta. Having a crescent shaped head, a short neck having a perforation, and a broken base. Length-thickness. BKL-300
6. A spindle whorl (?), broken at sides dumbbell shaped, having a perforation. Diameter-2.2 cm and Thickness-2.9 cm. BKL-457
7. A terracotta object, oval shape having a concave top portion and a flat bottom side. Length-1.7, Breadth-1.4 cm. BKL-38
8. Terracotta ball, spherical shape, red colour, made of medium grained clay. Diameter 1.5 cm

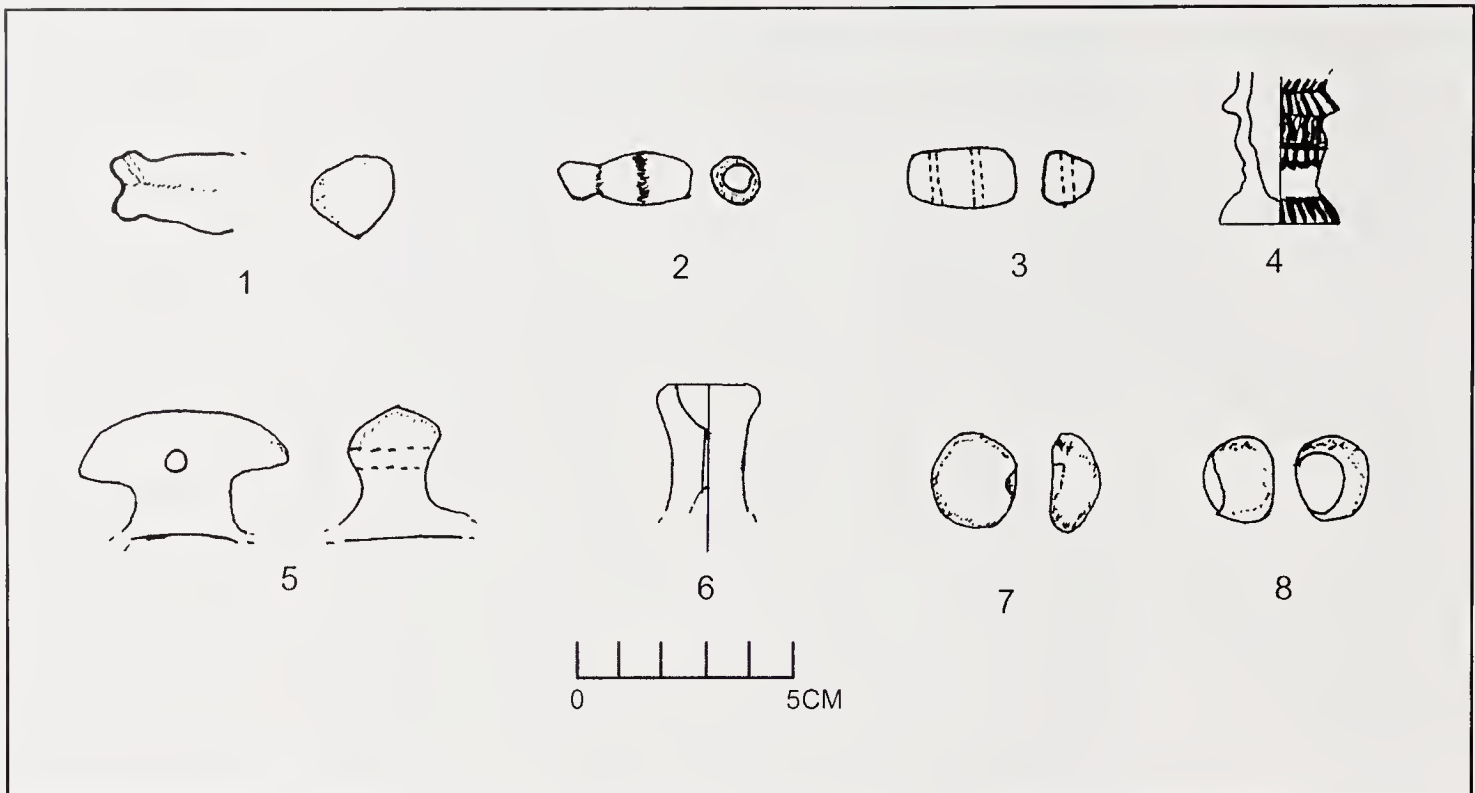


Fig. 31. Miscellaneous terracotta objects. *See p. 75*

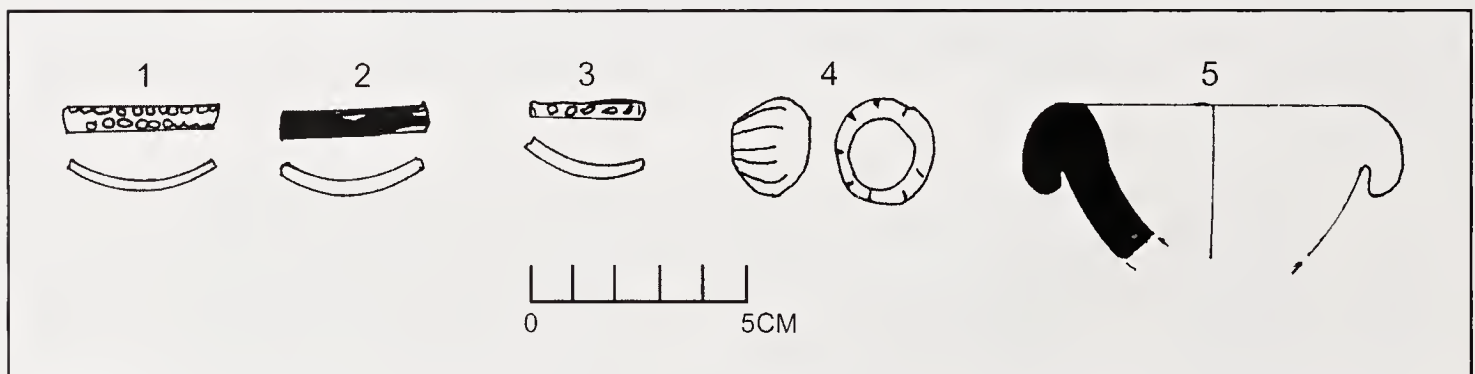


Fig. 32. Glass objects. *See p. 77*

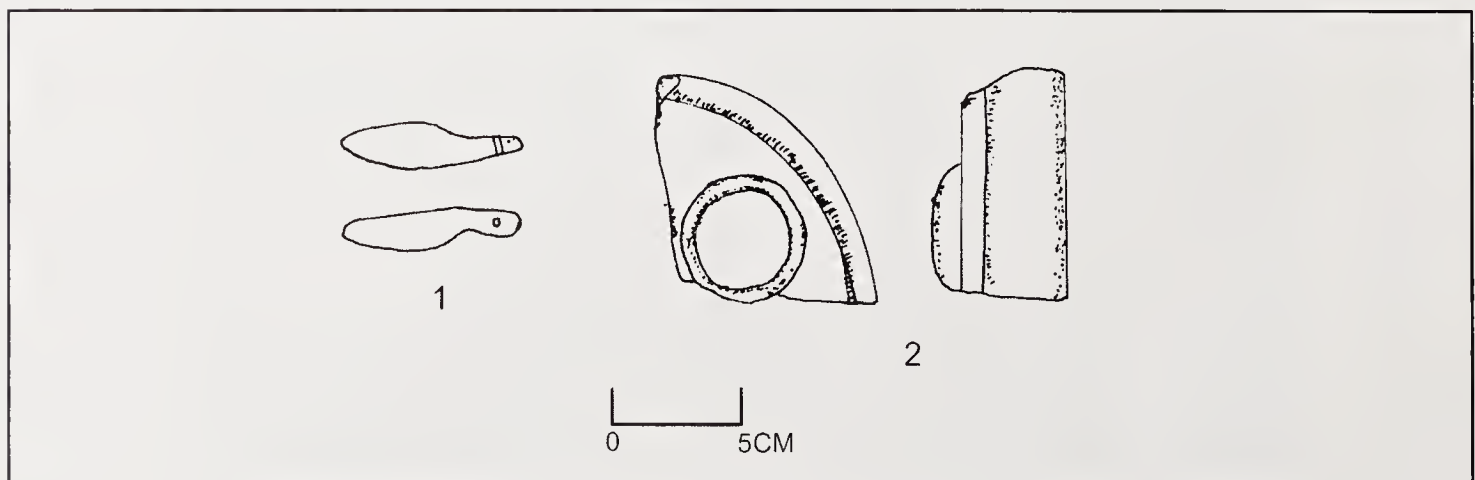


Fig. 33. Miscellaneous stone objects. *See p. 81*

Glass Objects (pl. XXII-A fig.32)

1. Glass, bangle fragment, black colour having double row of dot designs in the exterior, medium sectioned. BKL-332.
2. Glass, bangle fragment, black colour having pale green coloured edges and cream colour designs on the centre. BKL-256.
3. Glass, bangle fragment, cream colour having dot designs on the exterior part, medium sectioned. BKL-129
4. A glass object, broken at one side, flat at other side having an oval shape. Etched lines can be seen on the body part at equal intervals.
5. Fragment of a miniature vase of an opaque glass, black colour, with an out curved, under cut thickened rim. BKL-170
2. Short, oval shaped bead of smoky Quartz. BKL-297
3. Short, spherical, circular bead of Quartz, orange red colour. BKL-285
4. Long, cylindrical, circular bead of Chert, incised lines on both ends. BKL-1030
5. Short, irregular spherical, red colour circular bead of Quartz (?) BKL-139
6. Short, globular, circular bead of Quartz cream colour. BKL-421
7. Short, oval shaped bead of Quartz (?) green colour. BKL-232
8. Long, unfinished, tubular, circular bead of Laterite, with an yellow slip. BKL-281
9. Short, spherical shape, circular bead, ivory (?), cream colour. BKL-1075
10. A wooden bead, spherical shape, circular sectioned, copper strips on its body. BKL-134

Glass Beads (pl. XXIV-B fig.34)

1. Short, irregular spherical circular etched bead of glass, black colour. BKL-390
2. Short, spherical shape, circular etched bead, wavy designs in a couple of concentric lines, black colour. BKL-189
3. Short, barrel shaped, circular etched bead, black colour, concentric band over its exterior surface. BKL-763
4. Short, spherical shape, circular etched bead, wavy designs, in a couple of concentric lines joined in some parts, black colour. BKL-1076
5. Short, tubular shape, circular, etched glass bead, black colour. BKL-163
6. Short, tubular, circular etched glass bead, black colour. BKL- 854
7. Long, tubular, circular bead of glass, black colour. BKL-129

Stone Objects

Stone Beads (pl. XXIV-B fig.34)

1. Short, irregular spherical bead Quartz (?) green colour, incised lines at equal intervals BKL-74

Stone Stylus (pl. XXII-B)

1. Stylus. Granite, broken, circular sectioned. BKL-877
2. Stylus. Granite, broken circular sectioned. BKL-139
3. Stylus. Granite, broken triangular sectioned. BKL-454
4. Stylus. Broken, pentagonal sectioned. BKL-791
5. Stylus. Granite, broken, circular sectioned, pointed end. BKL-859
6. Stylus. Soft stone, broken, circular sectioned, pointed end. BKL-966
7. Stylus. Granite, broken, circular sectioned, pointed end. BKL-1007
8. Stylus. Soft stone, broken, square sectioned. BKL-140

Stone Dice (pl. XXII-B)

1. Stone dice, cream colour, Thickness-0.5 cm, Length-1.1 cm.

Stone Balls (pl. XXIII-B fig.35)

1. Stone, ball, globular, Diameter-4.2 cm. BKL-646



Pl. XXIIA : *Glass objects. See p. 77*



Pl. XXIIB : *Stone stylus and stone dice. See p. 77*

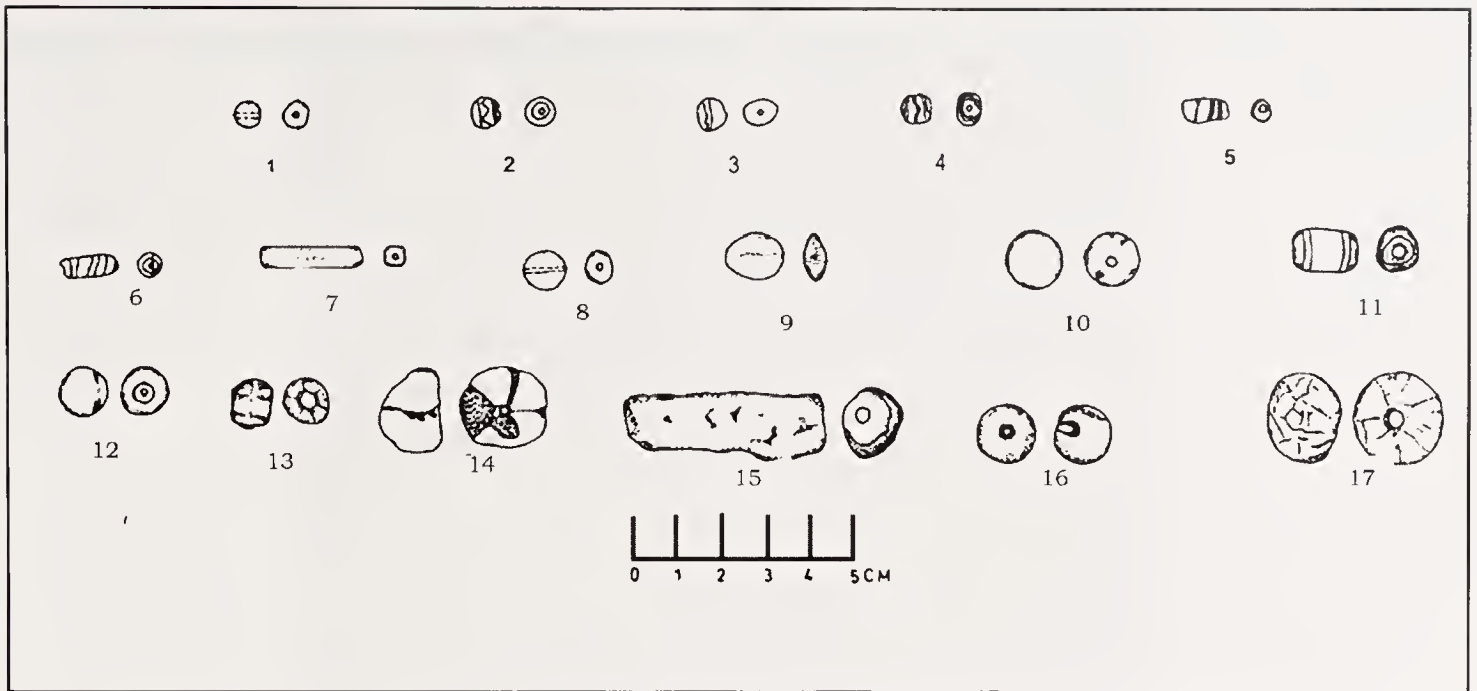


Fig. 34. Glass beads (1-7) stone beads (8-15), Ivory (16), wooden beads (8-15). *See p. 77*

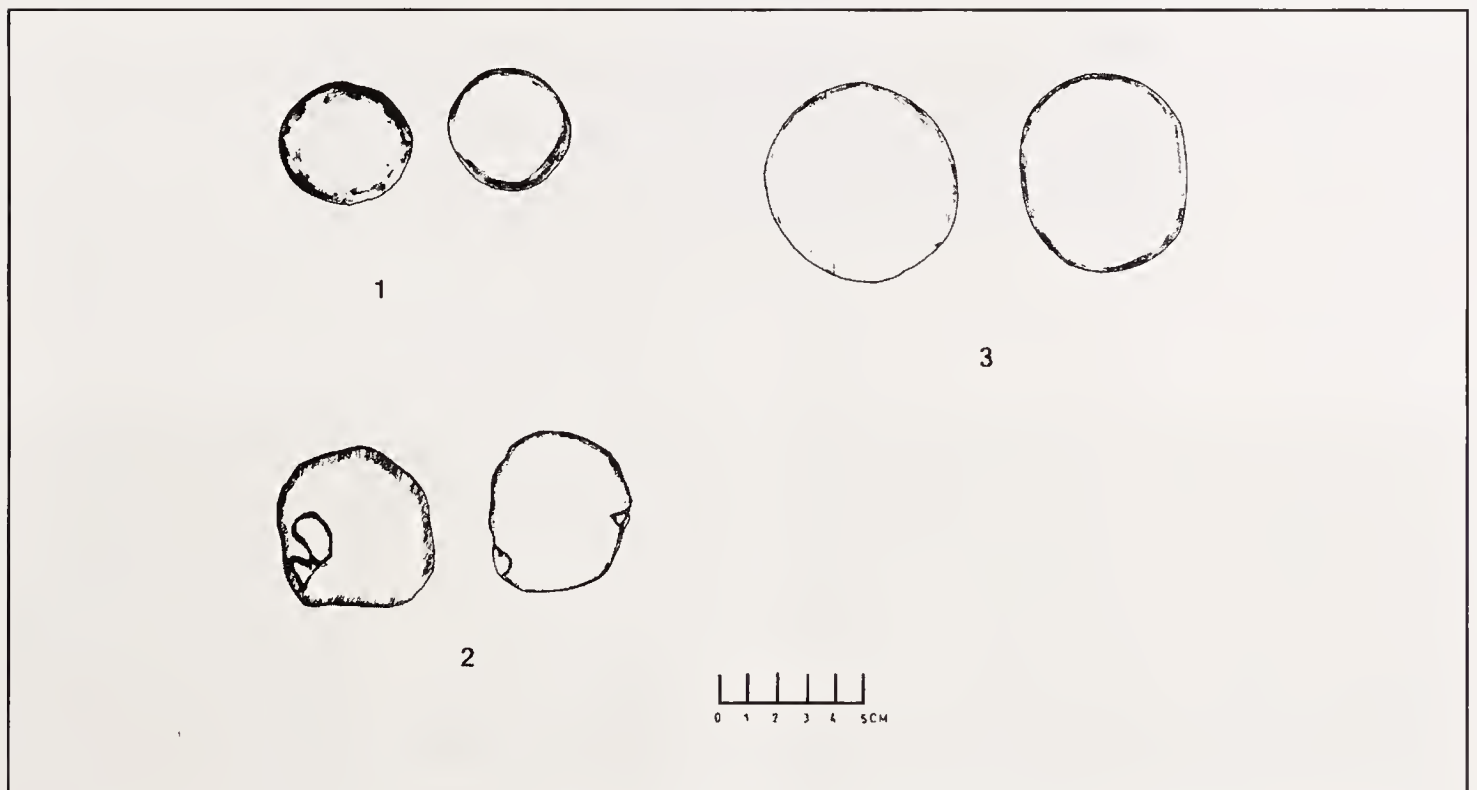


Fig. 35. Stone balls. *See p. 77*



Pl. XXIIIA : *Stone pestles and mullers. See p. 81*



Pl. XXIIIB : *Stone balls.
See p. 77*



Pl. XXIIIC : *Miscellaneous stone objects.
See p. 81*

2. Stone, ball, globular, Diameter-5.5 cm.
3. Stone, ball, irregular globular, broken, Diameter-6.1 cm.

Stone Pestles and Mullers. (pl. XXIII-A fig.36)

1. Stone, pestle, short, triangular section, having a flat lower side and a conical top portion, made out of granite. Length-6 cm and Thickness-4.6 cm. BKL-532
2. Stone, pestle, triangular section, polished, having a flat lower side and a conical upper side, made out of granite. Length-9 cm, Width-5 cm.
3. Stone, pestle, triangular section, flat bottom surface and a conical top. Length-6.9 cm, Thickness-4.3 cm. BKL-379
4. Stone, pestle, triangular section, irregular flat bottom side and a conical bulged top. Length-10.5 cm, Thickness-4 cm. BKL-50
5. Stone, Muller, round, broken, circular section. Length-6 cm, Thickness-8.3 cm. BKL-37
6. Stone, Muller, broken, round with conical edge, circular section, worn out. Length-7 cm, Thickness-8.5 cm. BKL-76

Miscellaneous Stone Objects (pl. XXIII-C fig.33)

1. An elongated stone object, dabber (?) with a flat, broad and polished side, having a triangular cross section. The distal portion is having a handle possess perforation might have been used in the preparation of miniature pots. Length-7 cm, Breadth-1.5 cm. BKL-444
2. A stone object, broken, circular knob like projection in the centre and incised groove designs around the bottom portion is flat with a curvature in the side. Diameter-7.5 cm, Thickness-4 cm. BKL-84

Stone *Linga* Pedestal (pl. XXIV-A)

1. A stone *linga* pedestal of dark green colour, Height of 3 cm.

Gold Objects (pl. XXV-A)

1. Ear ornament, hanged by a copper wire, with spikes over the spherical body, lotus bud design on the tip. (Weight- 2.310 gm)

2. Ear ornament with a floral design, having a long stalk with a pointed end. Interior having a broken copper strip. (Weight-0.740 gm). BKL-89
3. Gold leaf with incised human figure. From sector-I. (Weight- 0.250 gm). BKL-450
4. Circular thin foil. From sector-III. (Weight-0.510 gm). BKL-498A
5. Ear ornament, spring like shape, with a stone on one end. (Weight-0.850 gm)
6. Spiral shaped, probably a fragment of ear ornament. From sector-II. (Weight-0.660 gm). BKL-545
7. Fragmentary bangle, circular sectioned (Weight-0.340 gm). BKL-313A

Silver Objects (pl. XXV-B)

1. Talisman with rectangular hollow cross section, inside is filled with unidentified object, and two loop on the top. Both sides are closed with rectangular cap.
2. Talisman with rectangular hollow cross-section, inside is filled with unidentified object and two vertical loop on the top. One side is partly damaged and other side is closed with rectangular cap.
3. A cap of Talisman, square sectioned.
4. Fragment of a ring of Plano- convex cross section. BKL-51
5. Fragment of a ring of Plano- convex cross section. BKL-45
6. A toe ring, square sectioned, circular shape.
7. Toe ring with square cross section. BKL-419
8. Earring of almost oval shape, broad, flat middle portion with a small-decorated ring.
9. Broken piece of an indeterminate object, 'S' shaped and square sectioned.
10. An ear pick with square cross section, upper end is broken and looped, lower end is flattish and curved. BKL-234
11. A silver stylus (?), square cross section with a tapered end and a knotted circular loop on top.



Fig. 36. Mullers and pestles. *See p. 81*



Pl. XXIVA : *Stone linga pedestal. See p. 81*



Pl. XXIVB : *Stone beads (1-7), stone beads (8-15), Ivory bead (16), wooden bead (17). See p. 77*



Pl. XXVA : *Gold objects. See p. 81*



Pl. XXVB : *Silver objects. See p. 81*

12. An ear stud, square in section, has square head and an elongated curved loop.
13. Tooth picks, of octagonal cross section, broad circular head pointed end is partly broken. BKL-503
14. Thin silver wire of circular cross section. BKL-587
15. A bangle fragment, rectangular section with beaded design on exterior. BKL-413
16. A fragmentary broad, thin ring, circular shape, having incised designs. BKL-436
17. Silver cap, round shaped with conical top end, hollow inside. BKL-944
18. A broken bell, having a pair of incurved petals joined at the tip with a loop on the top.

Iron Objects (pl. XXVI-A)

Nails

1. A nail with a square topped conical head. Square sectioned, pointed end is damaged. BKL-27
2. Iron nail, broken having a tapering end and a flat top. Thickness varies from 0.5 cm to 1.5 cm. BKL-849
3. Iron nail with a round section, round topped square head, tapering to a pointed end. BKL-1056
4. Fragment of an Iron nail, having round section with round topped conical head. BKL-73
5. An Iron nail, knobbed head, round sectioned, tapering to a pointed end. BKL-1109
6. Iron nail, slender, square sectioned, tapering to a pointed end. BKL-368

Iron Ring

1. Iron ring, circular, round sectioned. Diameter-3 cm, Thickness-0.6 cm. BKL-908
2. Iron ring, flat, thin sectioned. Diameter- 0.5 cm, Thickness-1 cm. BKL-425

Canon Ball (pl. XXVI-B)

1. Canon ball, globular having a small knob like projection on one side. Diameter-3 cm. BKL-906
2. A variant of above. Diameter-3cm. BKL-329
3. Canon ball, globular having a small petal like projection on one side. Diameter-3.5 cm. BKL-459
4. Canon ball, globular. Diameter-4.2 cm. BKL-413
5. A variant of above. Diameter-3.5 cm. BKL

Miscellaneous Iron Objects (pl. XXVII-A)

1. A fragmentary knife with a partly broken handle, rectangular sectioned. BKL-437
2. A fragmentary knife, thin rectangular sectioned. BKL-390
3. A door hinge, long, square sectioned. Thickness varies from 1.5 cm to 2 cm and length is 9.2 cm. BKL-527
4. An indeterminate 'U'-shaped object, round section. BKL-820
5. An indeterminate object of thin flattish section, having minute projections at equal intervals. BKL-291

Copper Objects

Nails (pl. XXVII-B)

1. A nail with square section, tapering to a pointed end. Top of the nail damaged. Length-4.2 cm. BKL-337
2. A nail with a square section tapering to a pointed end and a round topped flattened head. Length-3.5 cm. BKL-463
3. A nail with square section tapering to a pointed end, square topped flat head. Length-3.5 cm. BKL-238
4. A nail with square section, tapering to a pointed end and square topped flat head. Length-3 cm. BKL-708
5. A nail with square section, tapering to a pointed end and a square topped flat head. Length-2.9cm. BKL-320



Pl. XXVIA : *Iron objects. See p. 85*



Pl. XXVIB : *Iron cannon balls. See p. 85*

6. A nail with square section, tapering to a pointed end and a broken flat head. Length-2.9 cm. BKL-679
7. A nail with square section, tapering to a pointed end and a broken flat head. Length-2.6 cm. BKL-0-948
8. A nail with square section, tapering to a pointed end and a square flat topped head. Length-2.6 cm. BKL-155
9. A nail with square section, tapering to a pointed end and a square flat topped head. 2.2 cm. BKL-947
10. A nail with square section, tapering to a pointed end and a broken square head. Length-2.7 cm. BKL-418
11. A nail with square section, tapering to a pointed end and a broken square head. Length-3 cm. BKL-1058
12. A nail with square section, tapering to a pointed end and a broken square head. Length-2.6 cm. BKL-866
13. A knobbed nail with round section, tapering to a pointed end. Acc. no-455
14. Another variety of above. Length-1.2 cm. BKL-455
15. A nail with round section, tapering to a pointed end (damaged) and circular topped conical head. Length-1.5 cm. BKL-258
16. A nail with round section, tapering end and a round flat head. Length-1.7 cm. BKL-385
17. A nail with rectangular thin section, round head with incised design of human bust having long hair and moustache. Length-1.5 cm. BKL-420
5. A copper ring flattish in section, incised zigzag design on the outer surface. BKL-1169
6. Fragment of a copper ring round in section
7. Fragment of a copper ring flattish in section. BKL-1092
8. Fragment of a copper ring have round thick section. BKL-934
9. Fragment of a copper ring have round thick section. BKL-13
10. Fragmentary copper ring have plano convex section. BKL-512
11. Copper ring, square, thin sectioned. BKL-471
12. A copper ring with circular section.
13. A copper ring having flat square section, with a broad and thicker ends.
14. A copper ring with circular cross section. BKL-427
15. A nose ring (?) of circular shape, having a broad flat end connected with a small rotatable ring with an opening. BKL-1194
16. A variant of above. BKL-79

Ring (pl. XXVIII-A)

1. A copper ring, flattish in section. BKL-459
2. A copper ring, flattish in section. BKL-22
3. A copper ring, flattish in section. BKL-343
4. Fragment of a copper ring flattish in section, two parallel grooves on the outer surface. BKL-1226

Bangle and Bracelets (pl. XXVIII-A)

1. Fragment of a copper bracelet, square sectioned having incised square designs in the exterior. BKL-165
2. Fragment of bracelet of circular sectioned, with a knotted end. BKL-448
3. Fragment of a bangle of circular cross section.
4. Bangle fragment, flat, square sectioned with beaded design. BKL-432
5. A variant of above. BKL- 37
6. A variant of above. BKL-237A

Toothpick and Ear cleaner (pl. XXVIII-B)

1. A long chain, having an ear cleaner and a tooth pick.
2. A copper tooth pick, with a round topknot and sharp edge, rectangular sectioned. BKL-56



Pl. XXVIIA : *Miscellaneous Iron objects. See p. 85*



Pl. XXVIIIB : *Copper nails See p. 85*

Rattle (pl. XXVIII-B)

1. A rattle with a loop on the top. BKL-186
2. A rattle with a loop on the top.
3. A rattle with a loop on the top, grooved design seen below the loop. BKL-720
4. A rattle with a loop on the top
5. A rattle with a wide opened tips and a loop on the top BKL-18

Talisman (pl. XXIX-A)

1. Talisman with a square cross section and a loop on the top, inside is filled with folded copper plate. BKL-651
2. A copper talisman, round section with a knob on the top. One end is wide opened and other is narrower; top of the broader end has an incised marking 'XIII'
3. Circularly folded copper plate probably placed inside the copper plate. 256A.
4. A variant of above. BKL-256, A.
5. A variant of above. BKL-324
6. Circularly folded copper plate, probably placed inside the talisman.

Button (pl. XXIX-B)

1. Circular shaped, thin sectioned and pierced projection on the centre. Incised flower like projection on the outer surface. Inner surface have pointed projection on each corner.
2. Circular shaped, thin sectioned and centrally projected outer surface. Circular incised lines on the outer surface.
3. Circular shaped, thin sectioned, and have a central loop on the inner side.

Brooch and Hooks (pl. XXVIII-B)

1. Brooch, oblong section, curved with loops on both ends.
2. Brooch, elongated, oval shaped, round sectioned with two curved loops on each ends.
3. A variant of above.
4. Hook, elongated, thin, round sectioned.
5. A variant of above.

Fish-Hooks (pl. XXX-A)

1. Small fish-hooks of round thin sectioned with a knobbed head and a curved edge.
2. A variant of above. BKL-1173
3. A variant of above. BKL-1070
4. A copper fish-hook, broken head, thin round section with a sharp pointed edge.

Miniature Vase (pl. XXX-A)

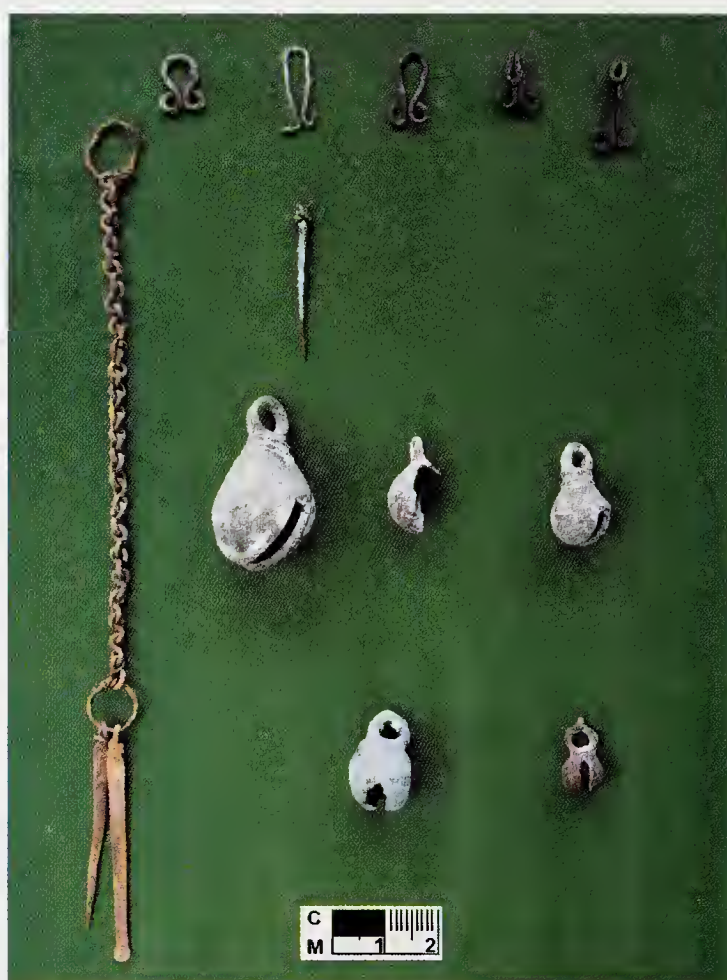
1. Fragment of a Miniature vase of out curved externally grooved rim. BKL-444
2. Fragment of a Miniature vase of out turned flat rim with a groove on the shoulder. BKL-832
3. Fragment of a Miniature vase of incurved flat rim. BKL-260
4. Fragment of a Miniature vase with incurved undercut rim with a looped handle. BKL-201
5. A Miniature vase of flat base and sharpened featureless rim. BKL-112
6. Fragment of a Miniature vase with a featureless rim. BKL-195
7. Fragment of Miniature vase with a under cut out curved rim. BKL-49

Miscellaneous Copper Objects (pl. XXX-B, XXXI-A,B)

1. Broken piece of an indeterminate object, with an elongated stalk and a 'T'-shaped end decorated with incised lines. BKL-822
2. Broken copper wire with square sectioned coiled end forming a loop. BKL-424
3. Broken copper plate of an indeterminate object having two pierced hole on one side and the outer surface is decorated with incised lines. BKL-437
4. An octagonal copper object of indeterminate use, of thin sectioned, the convex side having a pierced central hole designed with incised vertical lines. BKL-762
5. Broken part of a copper object of indeterminate use, having a conical pointed



Pl. XXVIII A : *Copper objects (bracelets, bangles and rings). See p. 87*



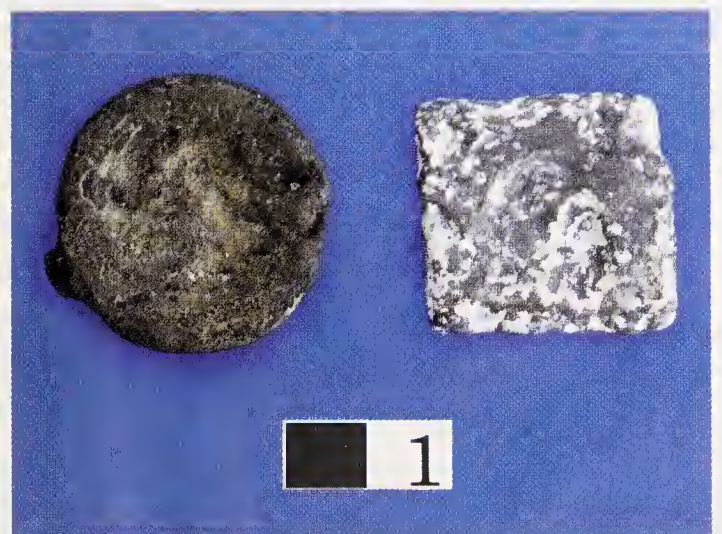
Pl. XXVIII B : *Copper objects (hooks, toothpicks and ear cleaner, rattles). See pp. 87 and 89*



Pl. XXIXA : *Copper talisman. See p. 89*



Pl. XXIXB : *Copper buttons. See p. 89*



Pl. XXIXC : *Copper and lead moulds. See p. 55*



Pl. XXXA : *Copper objects (fish-hooks and vases). See p. 89*



Pl. XXXB : *Miscellaneous copper objects. See p. 89*

- end, thin sectioned and a perforation in the centre. Incised decoration on the outer side of the object.
6. A decorated broken part of a copper plate of thin sectioned. Incised coir design around the border, Pierced hole seen on the corners, lower right corner still have a part of nail. BKL-439
 7. A broken part of an incised decorated copper plate with pierced hole on two sides BKL-639
 8. Broken part of a copper object of indeterminate use, both sides have incised decoration, four loops in the lower end, a copper ring on one of the loop. BKL-114
 9. A copper pendent (?), having incised line designs on the borders with decorations on both sides. BKL-1081
 10. A hoe shaped object, square sectioned, top portion is folded like a handle. BKL-158
 11. A long rod, square sectioned, one of the side having three consecutive lines at regular intervals. One end is broad and other is short.
 12. A variant of above. BKL-182
 13. A copper rod, long, circular sectioned, broken tapering ends and blunt top end. BKL- 539
 14. An oval shaped copper object of indeterminate use, square sectioned, having a broad perforation in the centre. BKL-1054
 15. Fragment of a copper lamp, with projected grooved lip, circular shape. BKL-153
 16. A copper knob of an indeterminate object with a hollow interior and grooved rim. BKL-701
 17. A copper knob of an indeterminate object with a grooved rim and vertical incised lines on the exterior. BKL-959
 18. A small copper object of indeterminate use, solid, has a stalk and a pierced knob on the top.
 19. Fragment of copper rod, having a circular shaped decorated silver cap, the upper end is having a conical projection.
 20. Fragmentary decorated serpent hood shaped copper object, having an incised lines and circles on the two hoods like portion on the two sides.
 21. A copper object with a short stalk, square sectioned with a perforated loop on the top, projection on either side below.
 22. A fragmentary decorated copper, thin sectioned, having incised lines and a perforation on one end.
 23. Copper decorated shell cap having a perforation on top, incised decoration on exterior. BKL-719
 24. Copper spatula, square sectioned handle and a thin flattened head.
 25. Copper spatula, round sectioned handle.
 26. Fragment of a copper chain.
 27. Fragmentary copper rod of indeterminate use, having incised lines at regular intervals, with a handle like projection at one end. BKL-518
 28. A copper object of indeterminate use, flat rectangular section, one end is circular having a perforation, incised decoration over the body. BKL-727
 29. Decorated fragmentary copper object of indeterminate use, one end with lace design, and hollow stalk on top having a small perforation. BKL-72
 30. Decorated fragmentary copper object of indeterminate use, flattish section, conical end having a small knob on top with corrugated sides.
 31. Fragment of a copper object with flat base, having a perforation. BKL-1227
 32. Small staple of square section. BKL-527
 33. Copper staple, short, thin sectioned with two perforations in the ends. BKL-1161



Pl. XXXIA : *Miscellaneous copper objects. See p. 89*



Pl. XXXIB : *Miscellaneous copper objects. See p. 89*



Pl. XXXIIA : *Front view of miniature bronze image See p. 96*



Pl. XXXIIB : *Back view of miniature bronze image See p.96*



Pl. XXXIIC : *Bronze objects. See p. 96*



Pl. XXXIID : *Lead objects. See p. 96*

Bronze Objects (pl. XXXII-C)

1. Bronze ring, circular sectioned. BKL-445
2. A variant of above. BKL-456
3. Bronze ring, Plano convex sectioned. BKL-440
4. A variant of above. BKL-334
5. Bronze, dice, square sectioned, rectangular shaped, round edge. BKL-180
6. A miniature human figurine, warrior (?), wearing a round cap, holding a staff in the hand, standing on a broken square pedestal. The lower end of the drapery is having incised line designs and is bare footed. (pl. XXXII)

Lead Objects (pl. XXXII-D)

1. A lead object of indeterminate use, long rectangular shaped cross section -from sector-I
2. A folded lead object of indeterminate use, short, the central edges are joined having a gap in between. BKL-458
3. A lead object of indeterminate use, broken at sides, shallow depression inside. BKL-250

4. A lead object of indeterminate use, biconvex, circular section. BKL-150
5. A lead object of indeterminate use, thin circular having a hole in the centre. BKL-95
6. A lead object of indeterminate use, Irregular Square shaped, having a short rectangular projection in the backside. BKL-1101
7. A coiled strip of lead, circular cross section. BKL-90
8. A lead bead, short, barrel shaped circular section. BKL-1124

Lead Balls

1. A lead ball, globular.diameter1.1 cm.
2. A lead ball, globular with a lip like opening on one of the sides. Diameter-1.3 cm. BKL-622
3. A lead ball, globular. Diameter-1.1 cm. BKL -769
4. A lead ball, globular, small. Diameter-1.3 cm. BKL-1012

CONCLUSION

Bekal is one of the best-preserved forts in Kerala. It is located on a high land having commanding view of the sea. The sea bastion is the unique feature of this fort. The structures inside the fort such as watch tower and magazine house, are of military in nature while durbar hall, mint house etc. have royal affinity. The Excavation conducted here has contributed to the better understanding of the regional history of Kerala. During the course of excavation important structures have been unearthed and a good number of Antiquities excavated. The identification of mint house as that of Tippu Sultan is the most important contribution of this excavation.

In different places of Karnataka and Kerala more than fifteen coin mints established by

Tippu Sultan in the latter half of 18th century AD. The remains of Kiln along with charcoal and ashy deposits, copper ingots, coin mould, defaced and unstuck coins, melted pieces of metals, small iron implements, terracotta seals, corroded coins, cash coins of Tippu Sultan etc. suggest that for minting '*copper cash coins*' Bekal mint was probably established by Tippu Sultan in eighteenth century at Bekal fort.

It is a matter of debate among Scholars about the existence of Ikkeri Nayakas inside the fort; but the structural remains of temple, seals recovered from durbar hall, copper cash coins of Nayaka provides ample evidence to prove their presence in the Bekal fort during seventeen century.

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